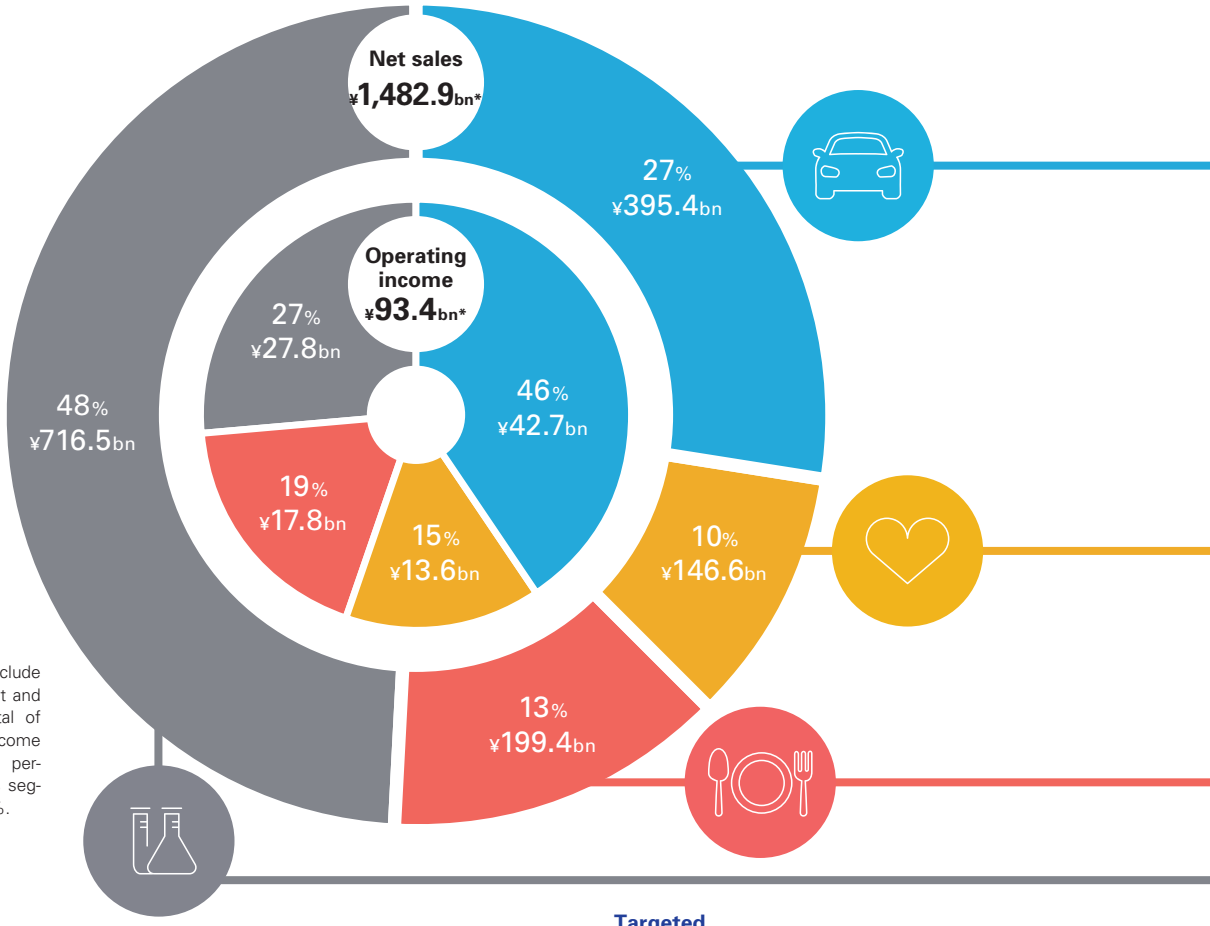
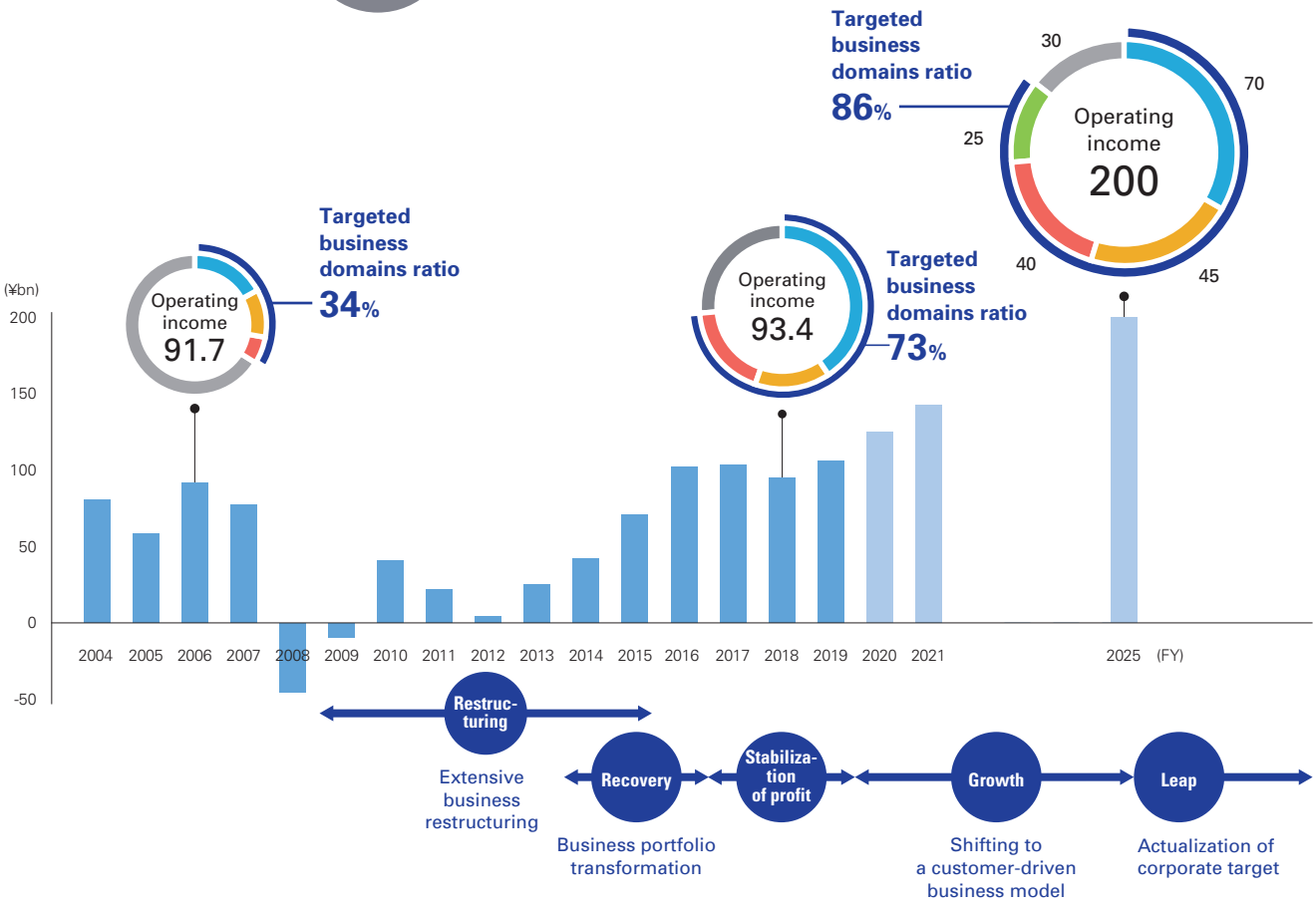
At a Glance



*Circle graph does not include Company-wide development and other costs, while the total of net sales and operating income includes. Accordingly, the percentages for each business segment do not add up to 100%.



Main Products

Mobility



- **Elastomers**
  Ethylene-Propylene Terpolymer (Mitsui EPT™), Alpha-olefin copolymer (TAFMER™), Liquid polyolefinic oligomer (LUCANT™)
- **Performance Compounds**
  Adhesive polyolefin (ADMER™), Thermoplastic olefinic elastomer (MILASTOMER™), Engineering plastics (ARLEN™)
- **Overseas PP Compounds**
- **Performance Polymers**
  Specialty polyolefins (TPX™, APEL™, HI-ZEX MILLION™, MIPELON™, LUBMER™, RAYPROM™), Semiconductor manufacturing material (Mitsui PELLICLE™)

Health Care



- **Vision Care Materials**
  Ophthalmic lens materials (MR™, RAV7™), Photochromic lens materials (SunSensors™)
- **Nonwovens**
  Nonwovens (SYNTEX™, TAFNEL™, AIRYFA™), Breathable films (ESPOIR™), Polyolefin synthetic pulp (SWP™, KEMIBESTO™)
- **Personal Care Materials**
  Acrylamide, Medical materials
- **Dental Materials**
  Restoratives (Charisma™, Venus™), Adhesives (Super-Bond™, iBOND™), Artificial teeth, Denture materials (PALA™), Impression (Flexitime™), Digital equipment / materials (cara™, DIMA™)

Food & Packaging



- **Coatings & Engineering Materials**
  Polyurethane resins (TAKENATE™, TAKELAC™), Packaging adhesives, Polyolefin resins, Coating resins, Sealants for displays
- **Packaging Films**
  Biaxially oriented polypropylene films, Cast polypropylene films, Linear low-density polyethylene film (T.U.X™)
- **Industrial Films & Sheets**
  Semiconductor and electronic components manufacturing process films (ICROS™ Tape), Foam sheets, Encapsulant sheets for solar cells (SOLAR ASCE™, SOLAR EVA™)
- **Agrochemicals**
  Insecticides, Fungicides, Herbicides, Non-crop specialty chemicals, Pet medication ingredients

Basic Materials



- **Petrochemicals**
  Ethylene, Propylene, High density polyethylene, Metallocene linear low density polyethylene (EVOLUE™), Linear low density polyethylene, Polypropylene, Olefin polymerization catalysts
- **Basic Chemicals**
  Phenol, Bisphenol A, Acetone, Isopropyl alcohol, Methyl isobutyl ketone, Purified terephthalic acid, PET resin, Ethylene oxide, Ethylene glycol, Hydroquinone, Meta/Para-cresol, Ammonia, Urea, Melamine, Semiconductor gas
- **Polyurethane Raw Materials**
  TDI (COSMONATE™), MDI (COSMONATE™), PPG (ACTOCOL™, ECONYKOL™)

Next Generation Business



- **Energy Solutions**
- **Medical Solutions**
- **Agricultural System Solutions**



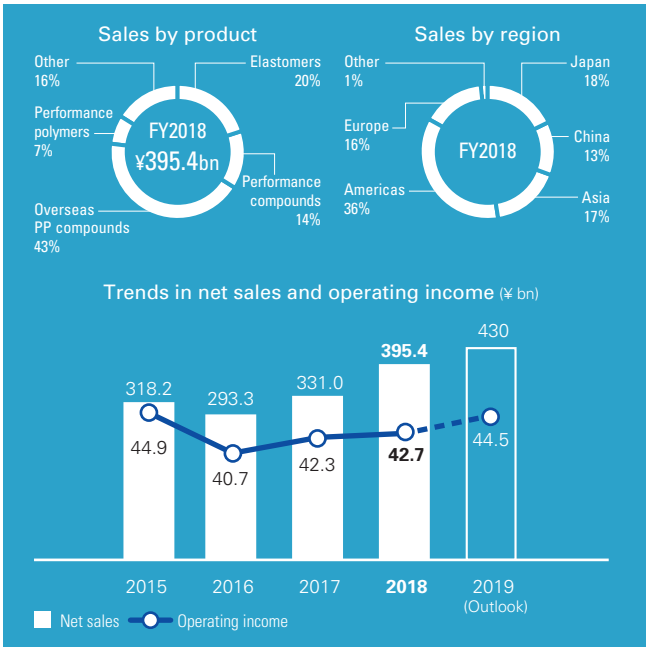
- **IoT Solutions**
- **Corporate Venturing**

Mobility



In addition to globally expanding our existing businesses, we aim to quickly seize on new market opportunities that arise from developments in CASE and growth in ICT-related markets. We will continue to develop new customer-oriented products and businesses and propose solutions centering on our technological know-how in materials.

Koichiro Sato
Managing Executive Officer,
Business Sector President,
Mobility Business Sector



Challenges and needs of society

Owing to the globally growing awareness of the need for environmental conservation, countries worldwide are tightening CO_2 emission regulations, while demand for better fuel efficiency in automobiles and the shift towards electric vehicles continues to progress year after year. In addition, the development of autonomous driving systems, car sharing, and other changes in the environment surrounding the mobility business are creating diversified new demand, particularly in the areas of automotive electronics and improving comfort.

Business vision

Mitsui Chemicals defines "mobility" as the various modes of transportation for both people and things, but most notably automobiles. In our Mobility domain, we aim to achieve sustainable growth in global markets by providing solutions to meet diversified needs and bolstering the competitiveness of each business.

Market analysis and strategies

Opportunities and risks

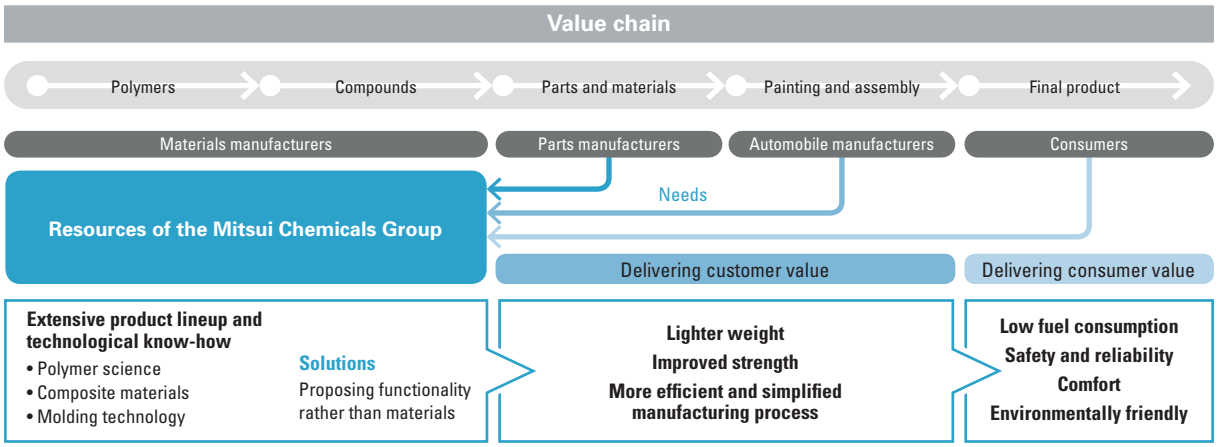
- Growing demand for lighter weight
- Growing demand for safety and comfort
- Emergence of new demand mainly for electrification and autonomous driving systems
- Regional disparities in market growth

Strengths

- Extensive lineup of materials
- Advanced technological capabilities and product quality
- Customer base
- Technical support
- Ability to propose total solutions across the value chain

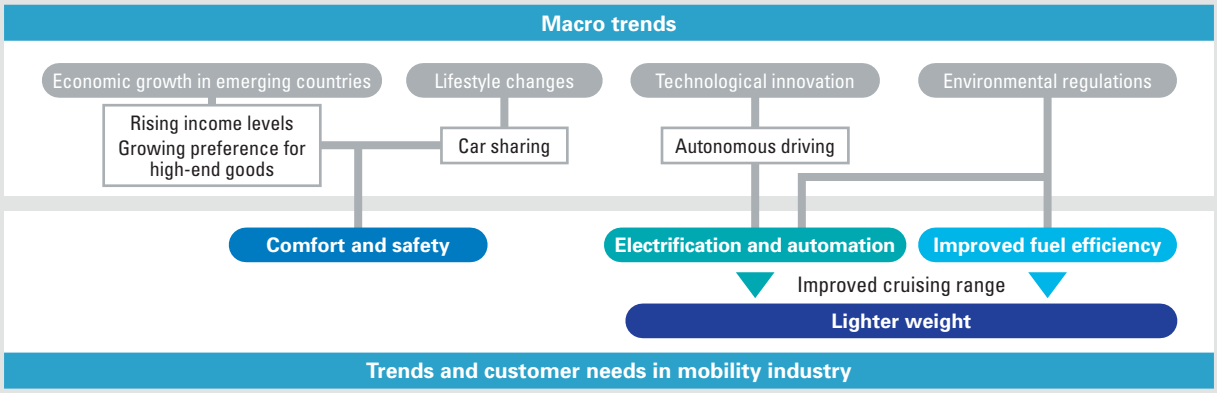
Basic strategies

- Generate expanded business opportunities from lighter weight and battery material trends
- Generate business opportunities from the integration of vehicles and ICT
- Beef up proposal capabilities by anticipating demand from the initial stages of automotive development



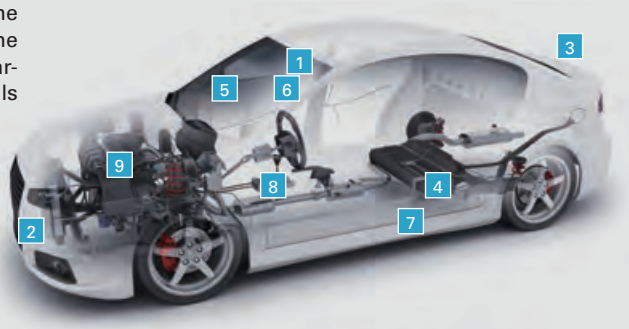
We aim to deliver customer and consumer value by harnessing the Group's various materials, components, molding technology, and development support capabilities to provide real and tangible solutions.

Customer needs identified from market trends



Function-specific lineup of strategic products

Plastics account for roughly 100 kilograms, or 10%, of the total weight of an automobile and makes up 70% of the 30,000 parts used. The Mitsui Chemicals Group meets various social needs with highly functional polymeric materials and performance compounds—areas that we excel in.





1 In-vehicle camera lenses

APEL™

- Compact
- Safe and reliable
- Lightweight

Electrification and automation

Lighter weight



2 Bumpers

PP compounds
PRIME POLYPRO™
TAFMER™

- Lightweight
- Impact resistant
- Designable

Lighter weight



3 Exterior materials

Glass fiber-reinforced plastic materials/carbon fiber-reinforced plastic materials, etc.
MOSDIO™*1

- Lightweight
- Improved fuel efficiency

Lighter weight



4 Fuel tanks

Adhesive polyolefin
ADMER™

- Lightweight
- Higher degree of freedom in design

Lighter weight

Comfort and safety



5 Metal/resin integral molding parts

POLYMETAC™*2

- Lightweight and compact
- Fewer production processes and lower assembly costs
- Improved design

Lighter weight

Comfort and safety



6 Interior surfaces

Thermoplastic elastomers
MILASTOMER™

- Low density, lightweight
- Designable
- Recyclable

Lighter weight

Comfort and safety



7 Door sealing

Ethylene-Propylene Terpolymer Mitsui EPT™

- Good processability
- Good weatherability and heat resistant
- Good sound absorption/ insulation

Comfort and safety

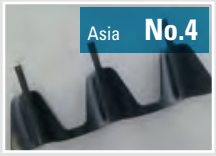


8 Gear lubricant oil additives

Liquid polyolefin oligomer
LUCANT™

- Improved fuel efficiency
- Longer service life

Improved fuel efficiency



9 Parts around engine

ARLEN™

- Improved fuel efficiency

Improved fuel efficiency

*1 Can be used for rear-door and hood interior panels.
*2 Aiming for commercialization for automobiles by 2020. Integral injection molding eliminates processes that use screws or welding. It provides the same strength as metal parts at half the weight by combining polypropylene (PP) resin with aluminum.

Challenges of automotive industry and lighter car bodies

Growth in polypropylene (PP) compounds and other automotive parts

Environmental regulations and rise of EVs are making vehicles increasingly lighter

Reducing the amount of CO_2 emissions in order to prevent global warming is a challenge for the automotive industry today.

This challenge to reduce emissions lies in realizing lower fuel consumption in vehicles, therefore as a countermeasure, automakers are making car bodies lighter. At the same time, powertrain electrification and the shift to electric vehicles are also making cars lighter so as to improve cruising range.

With the outlook for even stricter regulations to be enforced worldwide between 2020 and 2025 on fuel efficiency and exhaust gas that contains CO_2, it is estimated that CO_2 emissions will need to be reduced by around 40% compared to 2016 levels in order to comply with the tougher restrictions. If we were to achieve this target by making cars lighter, a further reduction in total vehicle weight of around 25% would be required.

Many automobile manufacturers are now making the switch from traditional metal parts and components to those made from plastics as a means to realize more lightweight vehicles, and this shift is expected to further accelerate.

Pursuing top global share

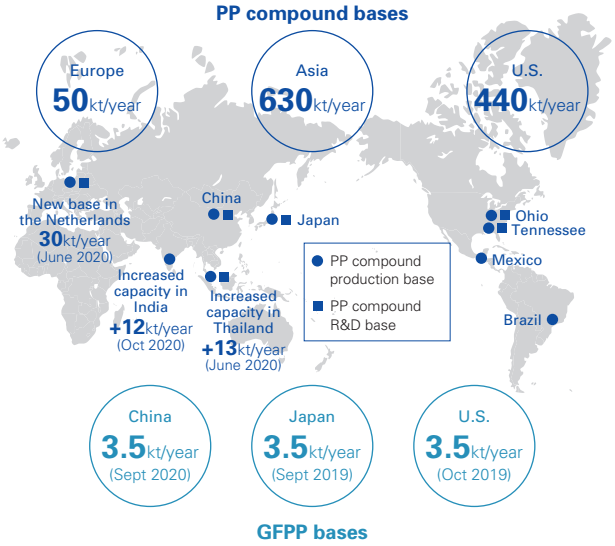
Growth and expansion of PP compound business

The Group's automotive material PP compound business boasts the second-highest global share and the top share in Asia. We also maintain a leading share among Japanese automakers, while in North America we already hold a share of roughly 30%, having received a high evaluation and built a solid track record supplying compounds to US auto manufacturers.

PP compounds are materials that enhance impact resistance and rigidity because other polymers and additional agents, such as elastomers and talc, are added to polypropylene, which has superior moldability. Currently, around 50–60 kilograms of PP compounds per car are used to make components such as bumpers and instrument panels.

Our superior proprietary compound recipes and the know-how to design the resins, or in other words the raw materials, have enabled the Group to provide high-quality products meeting various customer needs. And that is why we have been rated very favorably. Moreover, we have built a system capable of quickly accommodating the global strategies of automobile manufacturers, by maintaining eight production bases and five R&D bases in key regions around the world. In the past our share of the market in Europe was not high; we, therefore, have taken steps to expand our business there by setting up a development base. As we expect this to boost sales in Europe going forward, we established an in-house production base in the Netherlands with the aim of commencing operations in 2020.

We also plan to beef up our production bases in Thailand and India in order to tap demand in the growing Asian market. Up ahead, we aim to further consolidate our business drawing on our technological superiority and supply capabilities. To this end, we will make sure to identify growth markets and augment production capacity in order to meet demand growth and increased market share.



PP compound	Share	Market growth rate*
Global	No.2 (21%)	—
Asia	No.1	—
Japan	No.1	—

*FY2016-2019

TAFMER™	Share	Market growth rate*
Global	No.2	6%
Asia	No.1	9%
Japan	No.1	—

*FY2016-2019

Further initiatives for metal alternatives

Glass fiber-reinforced polypropylene

Glass fiber-reinforced polypropylene (GFPP) is a compound material made by impregnating fibrous glass with polypropylene resin. It is lightweight and strikes the right balance between rigidity and impact resistance because of the long glass fibers, and increasingly adopted for use in the rear doors of cars as a replacement for metal. Our GFPP also has a nice appearance, which helps shorten the manufacturing process at automakers because it can be used without being coated.

Given the growth in global demand for lighter materials, auto manufacturers are examining whether they can use other materials to replace the metal components in other parts of the car, like sliding doors, on top of rear doors. Fiber-reinforced resins are certainly a strong candidate. GFPP in particular costs less to make than carbon fiber, which is why demand is expected to increase in the future. We intend to establish a solid three-pronged global production framework consisting of bases in Japan, China, and the US that will enable us to meet growing demand for lightweight materials globally.



Fiscal 2025 target

Operating income of ¥70 bn + new businesses

Expanding production capacity for many of the Group's products in the next business term is essential for translating growing demand into business opportunities. Accordingly, we will steadily increase production capacity in line with the business plan for each product. In addition to expanding and reinforcing existing businesses, we will endeavor to promote the mobility strategy across the entire Group and strengthen our ability to provide solutions to customers.

Growth strategies

- Continually bring to market new differentiated products and raise production capacity as part of ongoing efforts to expand existing businesses.
- Work to enhance our product portfolio in the Mobility business by addressing demand for multi-material solutions, establishing technology for fiber-reinforced composite materials, and expanding customer support functions.
- Anticipate customer needs by harnessing open innovation and collaboration with the aim of promoting new business development in new markets and facilitating a shift towards downstream processes and services.

Investment strategies

- For polymer product lines that require large-scale production facilities, we will aggressively invest in further strengthening our competitive advantage by expanding production capacity in optimal locations to meet global demand growth.
- For compound products, we will continue to strengthen our customer-oriented global supply system by expanding production capacity in a timely manner to ensure local production for local consumption.

Fiscal 2019 plan

We anticipate firm sales growth for our major products driven by an increase in auto production volume and growth in ICT-related markets. In our existing businesses, we plan to raise production capacity at the appropriate timing to manage growing demand. In addition to capacity expansion for PP compounds, we are undertaking other large-scale investment projects this year, including new production facilities for the EUV pellicle business to keep up with developments in next-generation semiconductors, and capacity expansion for the LUCANT™ business, which has minimal impact on the environment (reduces fuel consumption and extends service life). We intend to accelerate the development of new products and work on creating new businesses with the aim of executing mobility business strategies for long-term growth.

Blue Value™ and Rose Value™ products in the Mobility domain

Blue Value™

Bumper and instrument panel materials

PP compounds

Reduce GHG emissions by roughly 13% by not requiring painting processes.



Reduces CO_2

Conserves resources

Blue Value™

Adhesive polyolefin for plastic fuel tanks

ADMER™

Lightens fuel tanks by 10–30% with the use of plastic instead of metal.



Reduces CO_2

Blue Value™

Bumper and instrument panel materials

TAFMER™

Reduces energy consumption during polymer manufacturing with the use of high-productivity catalysts.



Reduces CO_2

Blue Value™

Lubricant additive for automobiles

LUCANT™

Improves fuel efficiency by reducing temperature dependence of lubricant's viscosity and maintaining appropriate viscosity.



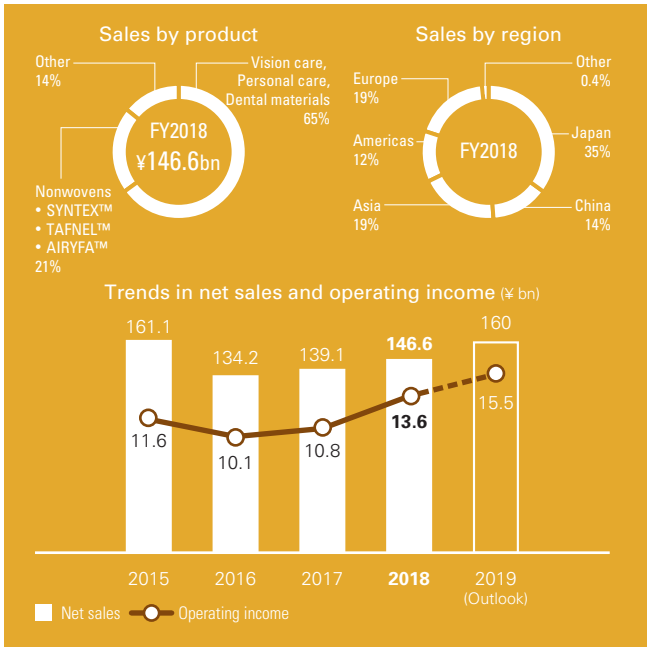
Reduces CO_2

Health Care



By strengthening and expanding our existing businesses and establishing new growth platforms through peripheral and downstream business development, we aim to provide products and services that improve quality of life (QOL) to achieve health and well-being in an aging society.

Osamu Hashimoto
Member of the Board, Senior Managing Executive Officer
Business Sector President,
Health Care Business Sector



Challenges of society

Interest in health is growing due to the declining birth rate and aging population in developed countries and economic growth in emerging countries. Customer values have diversified and individual preferences and needs are expanding. Customers now look for "care" depending on their lifestyles.

Business vision

We aim to establish new growth platforms for the Mitsui Chemicals Group by leveraging chemical innovation to create and provide products and services that help improve QOL.

Market analysis and strategies

Opportunities and risks

Vision care
- Global market growth

Nonwovens
- Growing export market for premium baby diapers and stable growth in domestic adult diaper market
- Intensifying competition in East and Southeast Asia

Dental materials
- Rapid changes in trends (shift towards smaller instruments) and expansion in digital dental technology market

Strengths

Vision care
- Broad product lineup

Nonwovens
- Consistent technological capabilities, from base resins to processing
- Strong customer base

Dental materials
- Global brand power
- R&D capabilities ranging from raw materials to dental materials

Basic strategies

- Expand existing businesses by steadily tapping growth demand
- Step up development of new products and businesses that help improve QOL
- Harness M&As and alliances to expand and reinforce business platforms

Specific strategies

Vision care
- Further expand business by developing and bringing new products to market

Nonwovens
- Maximize production and sales through strategic alliances with customers
- Steadily execute production capacity expansion plans

Dental materials
- Expand business by launching products that support and promote digitalization

Market growth rate for key products

Vision care	Ophthalmic lens materials (MR™, RAV7™)	4%
Nonwovens	SYNTEX™ (high-performance spunbonded nonwoven hygiene materials)	6%

*FY2014-2018

Vision care

A world leader in ophthalmic lens materials

MR™
https://www.mitsuichem.com/en/special/mr/

The Mitsui Chemicals Group develops plastic ophthalmic lens materials, ranging from low refractive to high refractive indices. In particular, our MR™ brand of high refractive lens material is rated highly as a lens brand of its own by contributing to the superb quality of the world's top brand lenses.

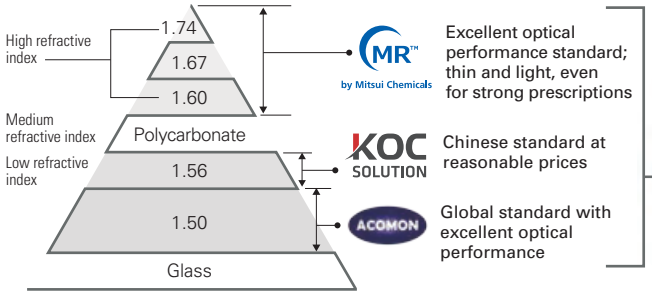
In addition, our US affiliates SDC Technologies and FSI Coating Technologies have respectively developed and now globally distribute high-quality abrasion-resistant coatings and high-quality anti-fog coatings.

The Group's role now is to not only offer a full lineup of lens materials for vision correction but also provide solutions to address health, comfort, and other diverse needs of society.

Armed with such consumer benefits, we are taking steps to further expand our global number one market share.

Expanding market share in all segments from mass market to high end with lens materials in a wide range of refractive indices

Lens materials

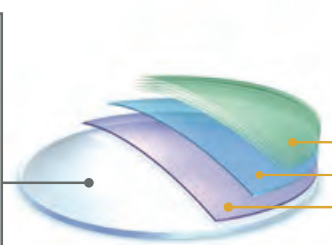


Excellent optical performance standard; thin and light, even for strong prescriptions

Chinese standard at reasonable prices

Global standard with excellent optical performance

Coating materials



High-quality coating materials that add value to lenses

Abrasion-resistant coatings — sdc

Anti-fog coatings — fsi

Global market share **45**%

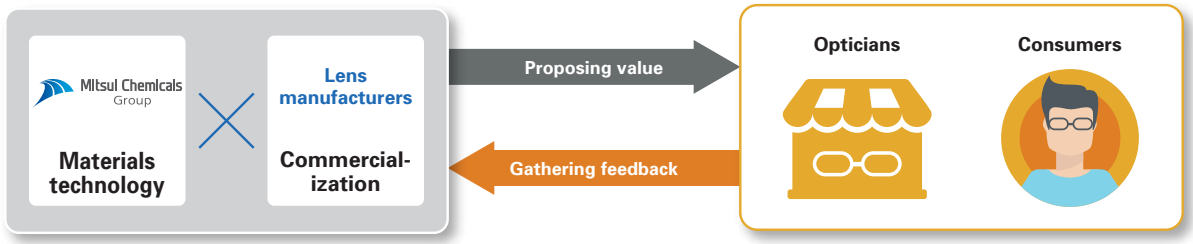
Developing new technologies to meet diversifying social needs, including eye health and aging

Pursuing eye health, comfort, and harmony with the environment by controlling light

UV cut 420nm	Light wavelength control technology that cuts harmful UV light and some high-energy visible light
NeoContrast	Light wavelength control technology that protects the eyes from glare and supports brightness and contrast sensitivity
Sunsensors	Photochromic technology that controls the light passing through the lens by adjusting the color depending on the amount of ultraviolet light
UrbanPola™	Polarization technology that enables clearer sight by eliminating diffuse reflections

Value chain

Creating a business model to deliver Quality of View*



*Quality of View is a scale for measuring a person's quality of life and level of satisfaction regarding their eyes, such as optimization of vision, vision comfort, eye health management, and disease prevention.

TOPICS **Sights set on full-scale expansion of TouchFocus™ next-generation e-eyewear for near and far vision. Whenever you want, just one touch.**

Since launching in February 2018, TouchFocus™ eyewear has been favorably received by consumers for its innovative functionality, sophisticated design, and custom-made fit. In October of the same year it was selected for the prestigious Good Design Award Best 100, and sales have steadily increased at partner department stores and retailers. The product lineup was expanded to include frames with a metal front and additional frame designs for women. Color lenses became available in the spring, and photochromic lenses in the summer. TouchFocus™ eyewear is planned to be offered at 100 stores nationwide by the end of fiscal 2019 . There are plans to offer TouchFocus™ in the two major markets of China and the US in the near future, with a consolidated sales target of 50,000 units by 2022.



Nonwovens

High-performance nonwovens for hygiene materials boasting excellent softness and stretchability

In East and Southeast Asia, the use of disposable diapers has become more widespread and high-quality, high-performance premium disposable diapers are growing in popularity. In addition to such basic features as being leakproof, breathable, and unlikely to cause diaper rash, consumers now demand a higher level of functionality, including comfort and a snug fit. The Mitsui Chemicals Group has applied its technology to satisfy these consumer needs by developing highly acclaimed nonwoven fabric that demonstrates excellent softness and stretchability. We further boosted our supply capacity in fiscal 2018 mainly by installing new equipment for high-performance nonwoven at two bases in Japan, raising production to 15kt per year at Nagoya Works and 6kt at Sunrex Industry Co., Ltd.

We are fully leveraging our three Asian production bases in Japan, Thailand, and China to ensure a reliable supply of high-performance nonwovens to meet growing demand. Moreover, we are stepping up efforts to expand this business into new domains, for example medical applications, in a bid to maintain and expand our top-level share of the Asian market for high-performance nonwovens.

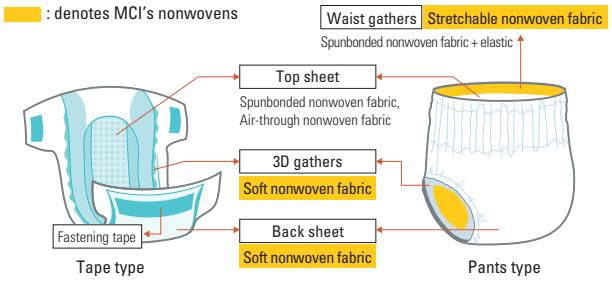
AIRYFA™—new high-strength soft nonwoven

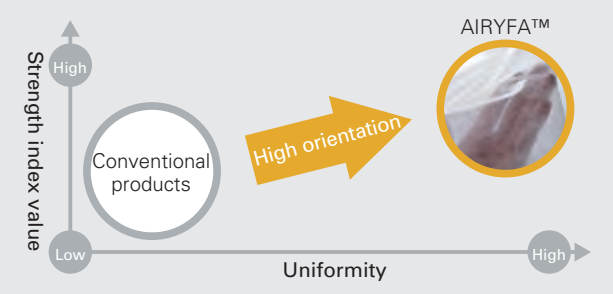
Our new product AIRYFA™ is a high-performance nonwoven that is gentle on the skin, providing both softness and strength. By capitalizing on our proprietary polyolefin spinning technology to produce a hollow and thin fiber structure, this textile is characterized by a superior level of softness and even texture. We have thus been able to develop a nonwoven fabric that offers both softness and strength, a feat conventional technology was hitherto unable to achieve. After bringing the production base in China online in February 2019, we now have a tripolar Asian supply framework in place spanning Japan, Thailand, and China.

Value chain and market structure



Application of nonwoven fabric in super premium disposable diapers





Dental materials

Accelerating our contribution to digitalization in dental care

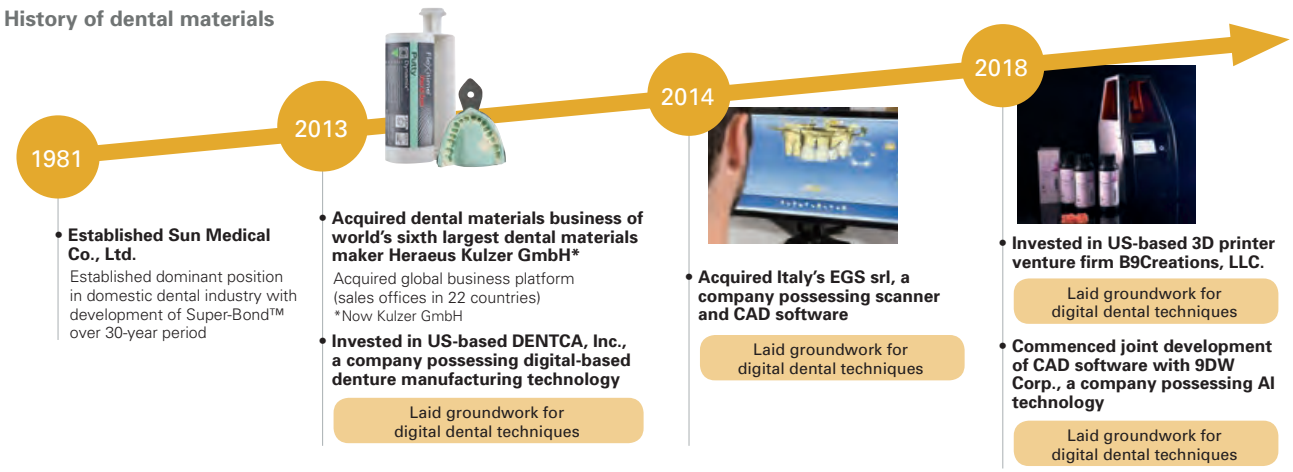
Dental materials are increasingly being made out of plastics, rather than metal. By bringing to bear our development capabilities in materials, we aim to contribute to improving quality of life in the field of dental care with innovative products and services needed by dental surgeons and laboratories alike.

Digitalization in dental care is advancing, driven by the use of 3D printers. It is particularly important that safe and high-performance materials are used with 3D printers.

We have thus far accumulated assets in this business through acquisitions and investments—we gained a global business platform from Kulzer and acquired digital technology platforms from DENTCA and B9Creations. In addition, with the aim of further deploying AI technology in the field of dental care, we are currently undertaking joint development of computer-aided design (CAD) software with 9DW Corp.

We intend to bring together all of these capabilities within the Group in an effort to expand our global dental materials business.

History of dental materials



Fiscal 2025 target

Operating income of ¥45 bn + new businesses

We expect the growth investments undertaken in each business thus far to gradually start contributing to earnings. In addition to strengthening existing businesses and expanding overseas, we are enhancing our ability to provide healthcare solutions by expanding our lineup of new products, as well as bolstering and furthering the creation of new businesses.

Growth strategies

- To meet diversifying needs as a global leader in the vision care materials field, we will continue working to expand and strengthen our business platform by stepping up operations in peripheral businesses.
- In nonwovens, we will continue expanding and strengthening business by developing high-performance products and pursuing global development.
- In dental materials, we will continue working to strengthen our growth platform by better meeting local needs and tapping into digitalization and other new markets.

Investment strategies

- In vision care materials, we will continue considering growth investments, including production capacity expansion to accommodate growth in customer needs.
- In nonwovens, we will expand production capacity for high-performance nonwovens with an eye to the burgeoning Asian market. We will also continue considering investments in the applications of growing industrial filters and medical materials.
- In the dental materials field, we will continue to actively provide digital workflow solutions by focusing investments in markets that are taking off, including 3D printers and ink.

Fiscal 2019 plan

In vision care materials, we intend to accurately respond to demand growth in ophthalmic lens materials and develop new technologies and products to meet increasingly diversified needs such as eye health.

In nonwovens, we will accurately respond to growth in demand for premium disposable diapers mainly in Asia and work on expanding AIRYFA™ and other new products.

In dental materials, we will continue to beef up our development of total solutions for digital workflow in addition to executing region-specific sales plans.

Blue Value™ and Rose Value™ products in the Health Care domain

Rose Value™

Ophthalmic lens materials
MR™

Contributes to vision correction, eye health, and comfort.

Extends healthy life expectancy

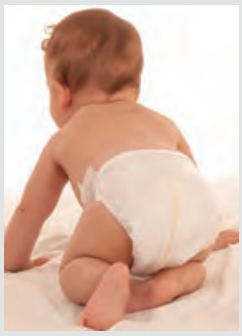


Rose Value™

Nonwoven fabric for disposable diapers
SYNTEX™

Pursues the basics of being leakproof, breathable, and unlikely to cause diaper rash, as well as a higher level of functionality, such as comfort and a snug fit.

Addresses declining birth rate and aging population



Blue Value™ Rose Value™

Ophthalmic lens materials
Do Green™ MR-174™

Reduces fossil resource consumption with use of bio-based raw materials.

Reduces CO_2

Conserves resources

Extends healthy life expectancy



Blue Value™ Rose Value™

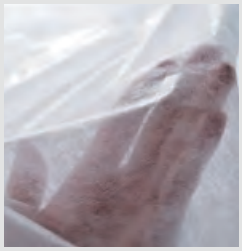
Nonwoven fabric for disposable diapers
AIRYFA™

Reduces amount of waste by using a fiber structure that offers both softness and strength. Disposable diapers support comfortable living for babies and their carers.

Reduces CO_2

Conserves resources

Addresses declining birth rate and aging population

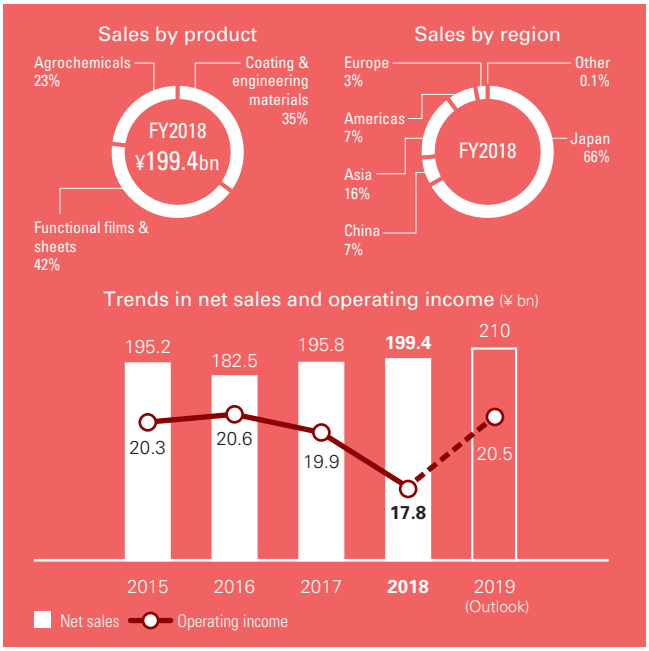


Food & Packaging



By bringing together the collective strengths of the Mitsui Chemicals Group, we continue to push ahead with the development of businesses that help solve challenges faced by society; namely, the need to boost food production, reduce food loss, and ensure food safety and security.

Takayoshi Shimogori
Member of the Board, Senior Managing Executive Officer
Business Sector President, Food & Packaging Business Sector



Challenges and needs of society

Rapid growth in the world's population has led to severe shortages of food, making it imperative that measures are taken to stabilize agricultural production and address the issues of food loss and waste. In addition, food safety and security and reducing our environmental footprint are now matters of urgency for society.

Business vision

We aim to drive sustained growth throughout the Mitsui Chemicals Group by maximizing the use of resources within and outside the Group to establish a next-generation pipeline platform and accelerate our expansion overseas and in new business domains.

Market analysis and strategies

Opportunities and risks

- Growing needs to address environmental issues
- Need to boost food production and reduce food loss to counter long-term population growth
- Growth in demand for packaging materials driven by rising living standards in Asia and advancement of food processing sector
- Shrinking domestic demand and uncertainty surrounding China and emerging economies

Strengths

- Lineup of high-performance products
- R&D capabilities in designing and creating new materials
- Development know-how leveraging collaboration with partner firms
- Healthy relationships with important customers

Basic strategies

- Focus on high-growth and high added-value markets
- Expand businesses by tapping growing demand overseas, mainly in Asia
- Develop core products through collaboration among business divisions

Specific strategies

Agrochemicals
- Reinforce our capacity to pioneer global markets by establishing a market-in framework

Coating & engineering materials
- Focus on high added-value markets
- Develop and launch high-performance products
- Develop next-generation core products

Functional films & sheets
- Bolster our ability to open up overseas packaging markets
- Strengthen our industrial film supply capabilities
- Beef up our development of high-performance and environmentally friendly products

Market share and market growth rate of key products

Agrochemicals

	Market share	Market growth rate
Global	—	3.6%*1
Asia	—	3.2%*1
Japan	10%	0.1%*2

*1 FY2017-2022 *2 FY2018

T.U.X™ high-performance sealant film

	Market share	Market growth rate*
Japan	34% (Japan No. 1)	1%

*FY2018

Functional films and sheets (Packaging films field)

High-performance food packaging materials and expansion in Asia

The packaging materials market in Asia has considerable growth potential thanks to rising living standards and the development of the region as a food processing and export hub. The Group has a lead on our rivals with production bases in Asia for products like T.U.X™, a high-performance sealant film, and EVOLUE™, one of the raw materials used in the former's production for which we boast a roughly 60% market share in Asia. Other products include multi-material adhesives to meticulously meet consumer needs; namely, TAKENATE™, TAKELAC™, and ADMER™. We continue to expand our operations in Asia through cross-organizational marketing and technical support.

TOPICS

AdFresh™ — special packaging material for long-term storage and imports/exports

AdFresh™ is a packaging film manufactured using our special polymers. Although the film is processed without micropores, it functions as a modified atmosphere film to suppress the respiration of fruits and vegetables based on its gas permeability, thus keeping produce fresh over long storage periods.

The effectiveness* of the product is currently being tested at sites where fruit is harvested and distributed. And with the aim of application for long-term storage and export, we are also taking part in consortiums for leading-edge and regional strategy projects implemented under the government's scheme for subsidizing innovative technology development and emergency deployment businesses.

We are currently engaged in marketing activities with the aim of bringing this product to market in fiscal 2019.

*AdFresh™ has demonstrated long-term storage of grapes (Shine Muscat variety; roughly 5 months), persimmons (Fuyu; 4.5 months; see case example), and apples (Orin; 3 months). We have also confirmed that the product helps control anthracnose (dark spots on skin) in mangoes (Irwin).

Fuyu persimmons stored in refrigerator (at 0°C for roughly 4.5 months)



After 4.5 months
Appearance and eating quality almost the same as when harvested

After two months
Soft flesh, discoloration, and rot

Functional films and sheets (Industrial films and sheets field)

Strengths of ICROS™ Tape and further expansion

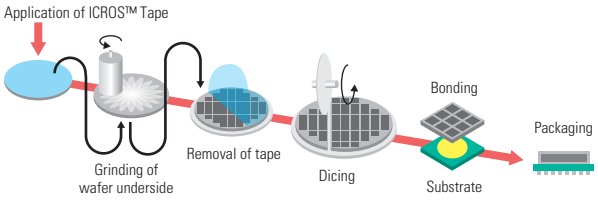
ICROS™ Tape is a surface protection tape used during silicon wafer backgrinding in the post-fabrication process for semiconductors. Of the major competitive manufacturers of this kind of tape, we are the only company that manufactures and processes resins, and we possess the largest share of the global market because we differentiate ourselves with resin design and film forming technologies.

Establishment of new plant

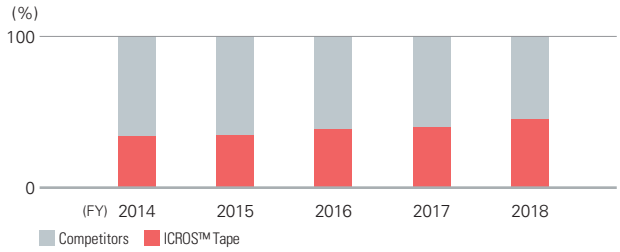
Demand for semiconductors is expanding on the back of IoT and other technological innovations. Accordingly, we are setting up a new plant for ICROS™ Tape in Taiwan where the demand is stronger than anywhere else in the world. We aim to increase our supply capacity by 50%, build a stable supply system, and further expand business.



What is ICROS™ Tape?



Global share of ICROS™ Tape



Coating & engineering materials

Extensive lineup of products and a broad range of applications

To better meet the varied needs of consumers, we are developing a wide range of applications for products in our extensive lineup of coating and engineering materials, including TAKENATE™, TAKELAC™, and CHEMIPEARL™, all of which are used in high-performance packaging materials. We were the first in the world to develop the specialty isocyanates FORTIMO™ and STABiO™. These products join a lineup that includes meta-xylylene diisocyanate (XDI), a high-performance product that enjoys wide market recognition. We are developing a broad range of applications for this lineup of specialty isocyanates as well as derivative products that incorporate them. All our products create new customer value and are expected to help strengthen and expand the coating & engineering materials business.

Coatings

Example: Car paint



- STABiO™
- U-VAN™

Adhesives

Example: Packaging materials



- TAKENATE™/TAKELAC™
- CHEMIPEARL™

Sealants

Example: Sealing materials for construction



- TAKENATE™
- HIPRENE™

Elastomers

Example: Injection-molded items



- FORTIMO™
- TAKENATE™

Agrochemicals

High-performance agrochemicals to help ensure stable food supply

Agricultural production will likely continue to expand over the medium- to long-term due to growing demand for produce, driven by global population increase and economic development in emerging countries. In order to bring to market agrochemical products that boost crop yields in line with local needs, Mitsui Chemicals Agro, Inc. is working to strengthen its overseas business platforms, especially in Asia.

For the insecticide dinotefuran and other active ingredients, the company is drawing on the expertise of its partners to develop agrochemical products and accelerate registration and market launch in more countries. For next generation active ingredients, we are currently developing the insecticide TENEBENAL™ (name of substance: broflanilide) together with a major global manufacturer in response to demand for use in agricultural and non-crop settings. We aim to successively release products with TENEBENAL™ as the active ingredient starting in 2019. Owing to the active ingredient's novel mode of action, these new products will contribute to controlling chemical-resistant pests. We are also making preparations to bring to market products containing the herbicide CYRA™ as the active ingredient.

Mitsui Chemicals Agro, Inc. possesses advanced agrochemical discovery technologies backed by a long track record of molecular design, organic synthesis, and biological evaluation. As it continues to discover highly unique active ingredients and develop agrochemical products, the company will help to enhance comfort in people's lives by improving crop yields, extending life expectancies by preventing infectious diseases, and improving housing amenity.

Fungicide — Tolprocarb

Mitsui Chemicals Agro, Inc. received Society Award for Achievement from Pesticide Science Society of Japan

In 2015 we launched domestic sales of tolprocarb, a paddy-field rice fungicide developed by Mitsui Chemicals Agro, Inc. Tolprocarb was rated highly for its novel mode of action against rice blast disease and the company was awarded the 2019 Society Award for Achievement (technology category) from the Pesticide Science Society of Japan. In fiscal 2019 we have expanded the number of product formulations containing tolprocarb to 17.



Domestic market for paddy-field rice fungicides: ¥**40**bn

Herbicide — CYRA™

Joint development with ZEN-NOH

Mitsui Chemicals Agro, Inc. in collaboration with the National Federation of Agricultural Cooperative Associations (ZEN-NOH), is stepping up development of the active ingredient CYRA™ (name of substance: cyclopyrimorate), a herbicide for paddy-field rice discovered by the company. In 2018 it submitted an agrochemical registration application for mixed formulations containing CYRA™ as the active ingredient. CYRA™ is effective against broadleaf and Cyperaceae weeds found extensively in paddy fields and the company aims to harness its novel mechanism of action and contribute to boosting rice yields by developing further products that meet the needs of farmers.

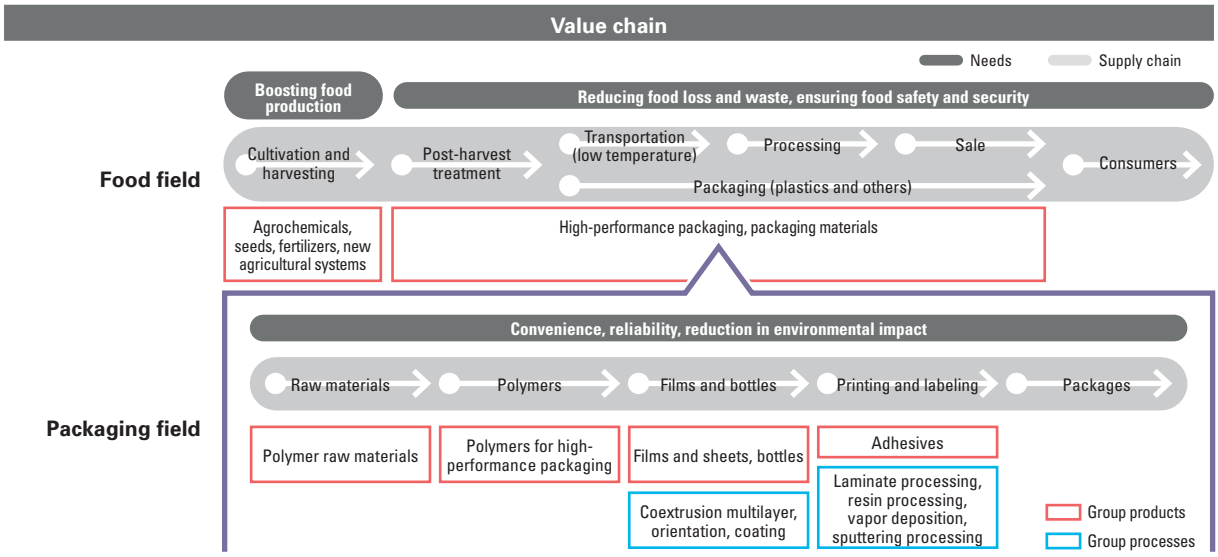
Domestic market for paddy-field rice herbicides: ¥**70**bn

Vision for eradicating malaria by 2040 ZERO 40

Together with four major global crop protection companies*1 and backed by the support of the Bill & Melinda Gates Foundation and the IVCC*2, the Mitsui Chemicals Group has released a joint statement regarding an initiative to support the research, development, and supply of innovative products that will help eradicate malaria by fiscal 2040.



*1 BASF SE, Bayer AG, Sumitomo Chemical Co., Ltd., and Syngenta AG
*2 Innovative Vector Control Consortium



Fiscal 2025 target

Operating income of ¥40 bn + new businesses

We recognize the need to boost food production, reduce food loss and waste, ensure food safety and security, and reduce environmental impacts as part of our efforts to address issues faced by society. In addition to focusing on high-growth and high value-added markets, we aim to tap growing demand overseas, especially in Asia, to further expand our business. In addition, we will endeavor to promote collaboration between business divisions in developing core products for the next stage of growth.

Growth strategies

- In agrochemicals, we will continue to sustain growth from next generation active ingredients, reinforce R&D, and strengthen our overseas business platforms.
- In coating & engineering materials, we will endeavor to steadily generate real demand for new products and brands and expand the scale of each product cluster by accelerating our overseas expansion.
- In functional films & sheets, we will aim to accelerate our overseas expansion of food packaging films and expand business scale for industrial films.
- In order to accelerate growth in the food packaging business, we will launch businesses offering solutions for maintaining food quality and expand our packaging materials business on a Group-wide basis.

Investment strategies

- In agrochemicals, we will steadily push ahead with capital investments in next generation active ingredients and aim to further accelerate growth.
- In functional films & sheets, we will actively carry out capital investments with the aim of bolstering our business platform for packaging films and expanding the scale of industrial films.

Fiscal 2019 plan

Despite the risk of higher raw material prices, in fiscal 2019, we expect to be able to ensure a stable earnings base by expanding sales against a backdrop of firm domestic demand and growth in overseas operations. We will further step up marketing in mainly Asian markets to expand sales of our specialty isocyanate products, high-performance packaging materials, mainstay insecticides, and the next generation active ingredient TENEBENAL™.

Blue Value™ and Rose Value™ products in the Food & Packaging domain

Blue Value™

Rose Value™



Milky-white food packaging film
ECONEIGE™
Delivers a white finish by diffusing light on layers of air created inside the film. Reduces the amount of resin used by 20%-30% without the need for white printing.

Reduces CO_2
Conserves resources



Sealant film
T.U.X™
Saves energy by using a lower heat seal temperature, while its improved film strength means less resin is used. Its excellent sealing performance and impact resistance reduces the amount of food wasted in food production and distribution.

Reduces CO_2
Conserves resources
Addresses food problems



Food packaging materials
CMPS™
Easy-open film that even children and the elderly can manage.

Addresses declining birth rate and aging population



Insecticide
TREBON™
Contributes to stable crop production and helps boost food production.

Addresses food problems



Hybrid rice
Mitsuhikari
F1 hybrid rice cultivar with superior high yield and taste. Mitsuhikari's delayed harvesting has the advantage of dispersing the concentration of harvesting resources, and results in the improvement of food productivity.

Addresses food problems



Insecticide
VECTRON™
Controls mosquitos, a carrier of infectious diseases like malaria. Contributes to the eradication of malaria.

Extends healthy life expectancy



Keep-fresh film
SPASH™
Suppresses wilting and discoloration of fruits and vegetables and contributes to a reduction in food loss. Reduces GHG emissions by reducing the amount of food wastes.

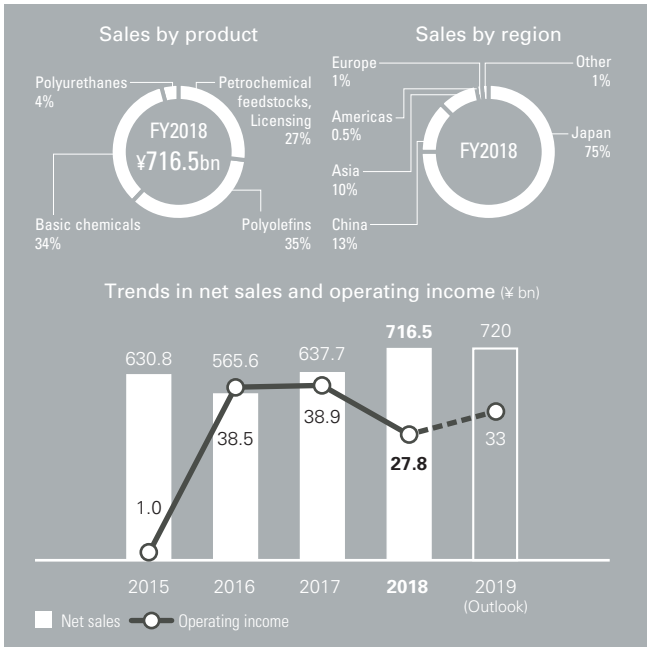
Reduces CO_2
Addresses food problems

Basic Materials



By leveraging the competitive advantage of our domestic bases and tapping into the Asian market in added-value fields, we aim to secure stable earnings and build a framework that serves as a cornerstone business and supports the Group as a whole.

Tadashi Yoshino
Managing Executive Officer,
Business Sector President,
Basic Materials Business Sector



Mission of the Basic Materials domain

Centering on petrochemicals and basic chemicals, we provide materials in a wide range of fields in this business, such as automotive, housing, consumer electronics, infrastructure, and food packaging. We aim to forge a presence in Asia, secure stable earnings, and build a cornerstone business by providing distinctive technologies, expanding our lineup of value-added products, and further strengthening our cost competitiveness.

Business vision

We are substantially improving our earnings structure by steadily executing business restructuring. At the same time, we are working to further strengthen competitiveness of the basic raw material ethylene. We are also mounting an effort to stabilize operations and improve profitability by expanding sales of EVOLUE™ and other ethylene-based high value-added polymers.

Despite the uncertainty and volatility in the environment surrounding this business, we are striving to further deepen its operations by continuing to implement thorough cost reductions, expand our differentiated products, and maintain our high operating rate by sticking to our local production for local consumption approach. In doing so, we aim to build a stable earnings base that is resistant to changes in market prices and the supply-demand balance.

Market analysis and strategies

Opportunities and risks

- Shift to the high-performance packaging domain/market
- Growing need to address environmental issues
- Influx of US shale and polyolefins
- Economic slowdown mainly owing to US-China trade friction
- Bulk and commodity product price volatility in Asia
- Influx of imported products and worsening export terms of trade due to the strong yen
- Shrinking domestic demand and slowing economic growth in China

Strengths

- Globally competitive naphtha crackers
- Metallocene and other polyolefin catalytic technologies
- Distinctive differentiated products and derivatives
- Global expansion of polyurethane system house business based on high-performance polyols

Basic strategies

Deepen our cornerstone business by completing its restructuring, strengthening cost competitiveness, expanding distinctive value-added derivative products, and actively addressing environmental issues

Specific strategies

Petrochemical feedstocks & licensing
- Further strengthen competitiveness of crackers and expand catalyst and licensing businesses
- Further deepen petrochemicals business, including production balance and distribution

Polyolefins
- Expand value-added fields using polyolefin catalytic technologies
- Build long-term relationships of trust with customers in Japan
- Enhance cooperation with the Mobility domain

Polyurethanes
- Accelerate global expansion leveraging advanced formulation design technology utilizing high-performance materials
- Expand eco-friendly products such as biomass-based polyurethane

Basic chemicals
- Secure stable earnings through implementation of thorough cost reductions, promotion of local production for local consumption, and reinforcement of derivatives
- Actively adopt AI, IoT, and other sophisticated production technologies

1. Building a stable earnings base

(1) Improving resistance to price volatility

Ever since the global financial crisis of 2008, there has been a supply glut for many products in the Asian market owing to the construction of new production facilities for various petrochemical products as part of China's enormous economic stimulus package. We previously maintained a high export ratio for commodity products like phenol, purified terephthalic acid (PTA), and polyurethane materials, but deteriorating profitability on exports to Asia meant earnings on these products fell sharply into the red.

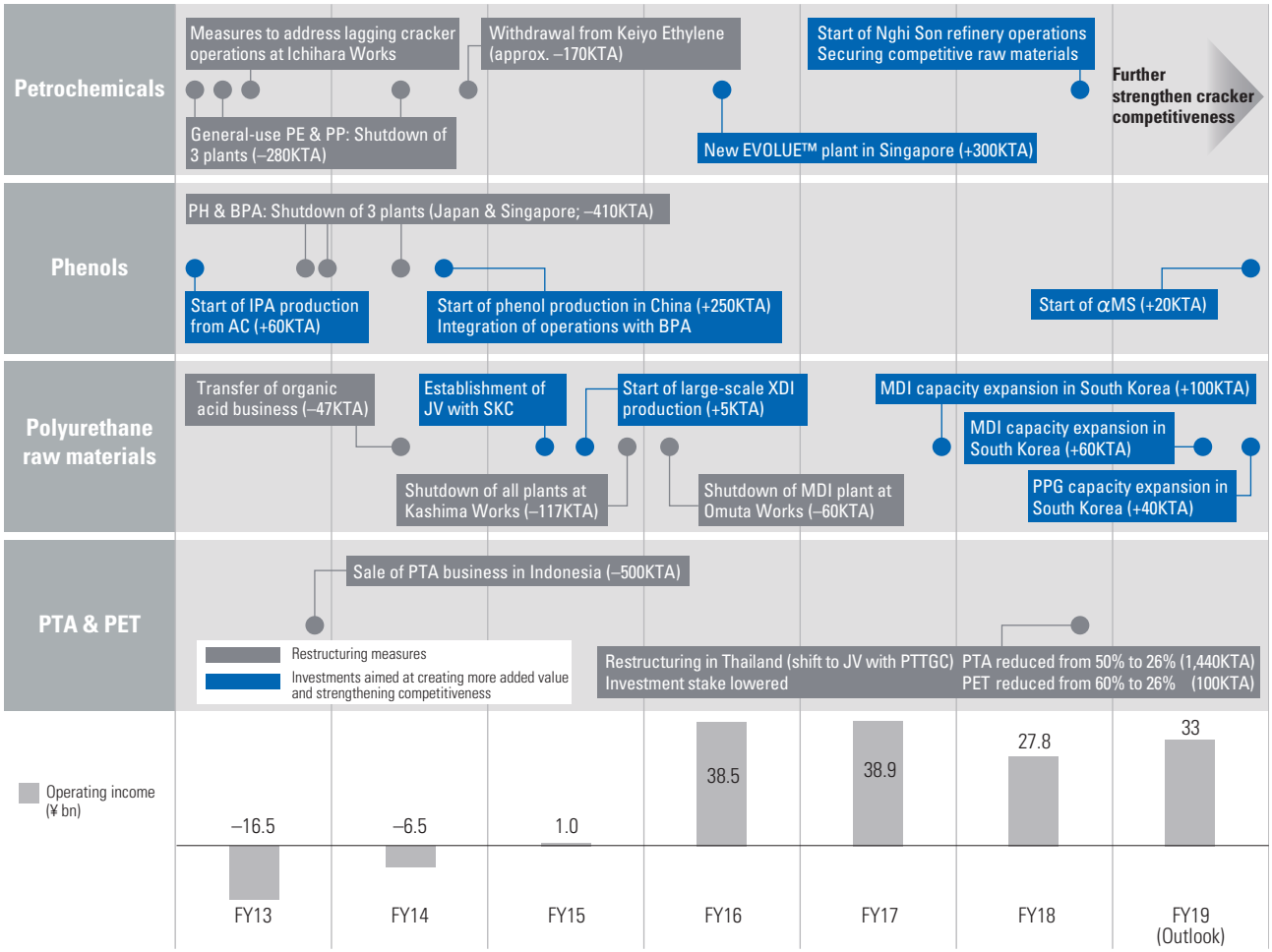
In response, we made the decision to embark on structural reforms followed by booking large extraordinary losses in fiscal 2013 and since then we have continued to take steps towards building a stable earnings base. We downgraded the size of our production capacity to meet domestic demand through measures such as retiring our production facilities for the aforementioned phenol, PTA, and polyurethane materials, which also included the closure of plants based on a strategy of local production for local consumption. At the same time, we have introduced a formula method to automatically link changes in raw material cost to product prices for those three products and other key materials such as domestic polyolefins in an effort to improve our resilience against fluctuations in market prices. As a result of these initiatives, earnings volatility has been greatly reduced—the weighting of local production for local consumption for phenol, PTA, and polyurethane materials has now reached 80%, while the price formula ratio of mainstay products together with domestic polyolefins now stands at 70%.

(2) Preparing for the risks posed by shale

Currently there are concerns that the supply-demand balance for ethylene and polyethylene in Asia will deteriorate as a result of an influx in cheap polyethylene as more shale gas-based crackers are expanded or newly built in North America. To counteract this, we are working to increase our ratio of captive ethylene consumption and develop derivative products with more added value. In 2014 we withdrew from Keiyo Ethylene Co., Ltd., closed our general-purpose polyethylene plants, and took steps to expand capacity for the production of EVOLUE™ and other ethylene-based high value-added polymers. As a result, our captive consumption of ethylene is now quite high at 80%, while the export ratio, which is susceptible to overseas market conditions, is less than 10%. In addition, our weighting of ethylene-based high value-added polymers has reached 90%. This has enabled us to shift to a product mix which makes it difficult for shale-derived polyethylene, most of which is for general use, to take the place of. Going forward, we will make every effort to minimize the risks posed by shale with various measures that enable us to provide more added value.

Reducing volatility through steady restructuring

Carrying out business reforms to establish stable earnings base with operating income of around ¥30bn



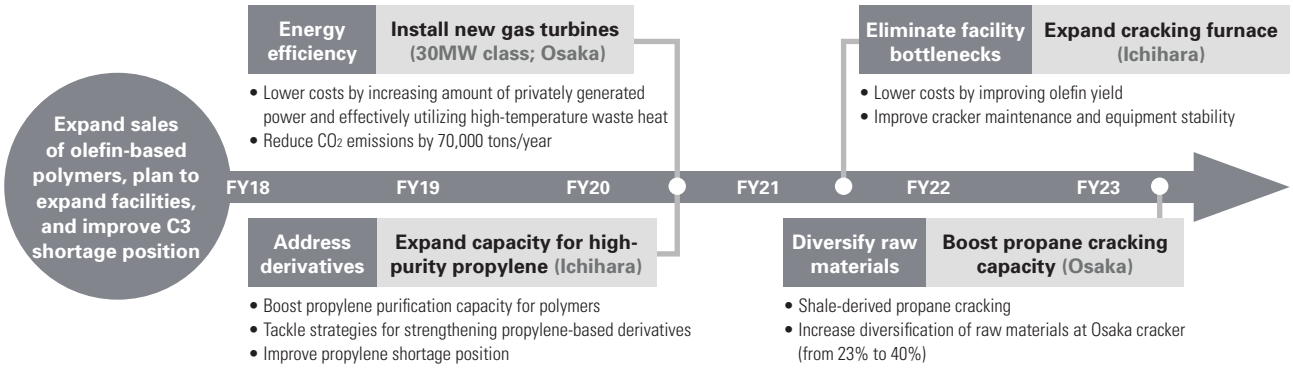
Basic Materials

2. Further strengthening our competitiveness and exploring growth potential

The competitiveness of our crackers compares favorably with the new large-scale crackers in Asia and have been rated highly by specialized overseas agencies for their superior energy efficiency. This is the source of competitiveness in our derivative products including our lineup of high value-added products outside of the basic materials field. Up ahead, we intend to further reinforce this competitive advantage mainly by reducing and stabilizing input costs through diversification of raw materials and improving energy efficiency with the installation of gas turbines.

We also plan to streamline production and distribution in our existing businesses by actively employing AI, IoT, and other highly-advanced technologies.

For our distinctive added-value products, we will work on achieving business growth by maintaining and expanding our share in growth markets. Moreover, we aim to explore the growth potential of this cornerstone business by acquiring new business opportunities. To this end, we will further beef up initiatives for addressing environmental issues and strengthen collaboration with customers.



Fiscal 2025 target

Operating income of ¥30 billion

The impact of new and expanded facilities for mainly polyethylene derived from shale gas is expected to be felt in Asia from 2019 through 2020. Still, we will aim to build a basic materials business with a strong presence in the Asian market by reinforcing our cost competitiveness through constant implementation of cost reductions, as well as shifting to high value-added products.

Growth strategies

- We aim to further boost earnings by deepening our cornerstone business, while expanding our differentiated products and derivatives with high profit margins in the Basic Materials domain.
- We plan to sustain and further enhance our competitiveness by establishing a local production for local consumption system and an optimal production system for bulk and commodity products.

Investment strategies

- Given that our upstream crackers have been confirmed to be highly competitive, we plan to carry out the large-scale investments we have examined thus far in order to reduce costs.

Fiscal 2019 plan

Despite concerns of an economic slowdown, we expect our naphtha crackers and production plants for derivatives to continue operating at high capacity on the back of stable domestic demand for petrochemicals. At our overseas bases we anticipate strong sales of EVOLUE™, commercial operation of which started in fiscal 2016 in Singapore, and we expect operating rates to increase up ahead.

We have transformed the earnings structure for basic chemicals and polyurethane materials into one that is resistant to market price volatility by having optimized their production structure. We will continue to take measures aimed at strengthening the business platform for Basic Materials.

Blue Value™ and Rose Value™ products in the Basic Materials domain

Blue Value™

Exhaust gas reduction agent
AdBlue™

Reduces NOx emissions.
Contributes to fuel efficiency.

*AdBlue™ is a trademark of the German Association of the Automotive Industry.



Reduces CO_2 | Coexists with nature

Blue Value™

Seat cushion material
ECONYKOL™

Reduces fossil resource consumption with use of bio-based raw materials.



Reduces CO_2 | Conserves resources

Next Generation Business



Hirofumi Zenkoh
General Manager,
Next Generation Business
Development Division

Creating solution businesses at the boundaries and in the peripheral areas

Drawing on the knowledge of the Mitsui Chemicals Group, we are taking on the challenge of new possibilities in the New and Next Generation Businesses freshly added to our targeted business domains in the 2025 Long-Term Business Plan. We have already started sowing the seeds to ensure our businesses bear an abundance of fruits in 10 to 20 years' time.

Mission of the Next Generation Business domain

The mission of our Next Generation Business is to leverage open innovation to create new businesses in our three targeted business domains as well as solution businesses at the boundaries and in the peripheral areas of these three domains. Various initiatives will be implemented through collaboration between each business sector, the New Health Care Business Development Division, the New Mobility Business Development Division, the Next Generation Business Development Division, and the Robot Materials Business Development Division.

The mission of the Next Generation Business Development Division in all of this is to come up with new business models. Underpinned by a "think globally, act locally" policy, the Division aims to create new business models based on the idea of marketing the Group's knowledge. All of the ongoing projects in the four core fields of agriculture, IoT, energy, and medical originated from cooperation with mainly overseas public organizations, including start-up firms and universities. Moreover, the Division's Corporate Venturing Department is working to expand open innovation-driven businesses mainly through the creation of new diagnostics and solution businesses owing to the integration of information and materials.

Fiscal 2025 target

Operating income of ¥25 billion
(incl. new businesses in other targeted business domains)

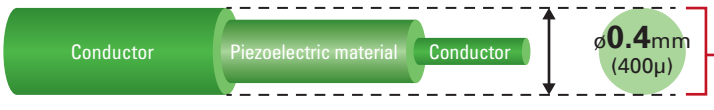
IoT solutions

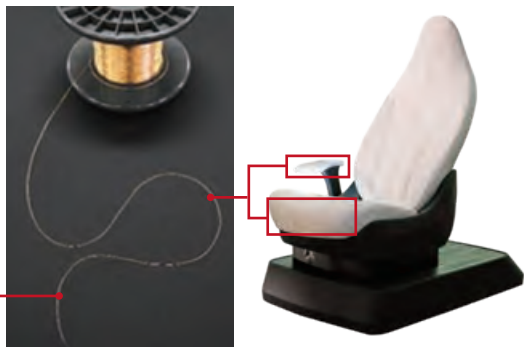
Development of PIEZOLA™, a flexible piezoelectric sensor

Made from organic piezoelectric material, PIEZOLA™ is a flexible and highly sensitive sensor line that can be cut to any desired length and affixed to a surface for measurement. The extremely thin (ø0.4mm) coaxial linear structure of the sensor line can be used for applications previously thought impossible because it can be affixed to uneven surfaces where the use of conventional ceramic sensors was impracticable, in a grid-like fashion at any width on broad surface areas, or wrapped around the surface of cylinder- or cone-shaped objects. Given its high sensitivity and non-pyroelectric properties (impervious to temperature changes), it is particularly well-suited to monitoring the vital signs of the human body. As it can be used on seats or beds to monitor breathing, pulse rate, and other vitals, we are working with many customers to test its application in society, for example, to help monitor residents in nursing care facilities.

In October 2017, we were presented with the Semi-Grand Prix prize for PIEZOLA™ in the Connected Industries category of the CEATEC AWARD 2017.

Coaxial linear structure of piezoelectric sensor (enlarged view)





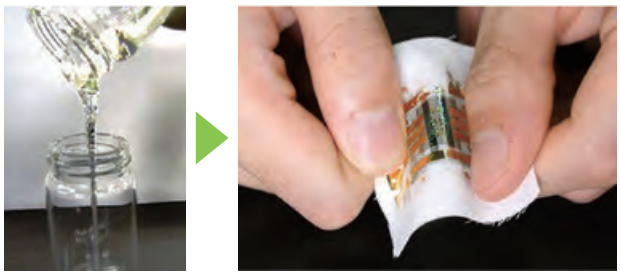
IT materials

Development of transparent polyimide varnish—ECRIOS™

ECRIOS™ is a colorless and transparent polyamide acid varnish that exhibits excellent heat resistance, chemical resistance, toughness, and dimensional stability. It has the potential to be used in next-generation electronics; for example, as a heat-resistant base material in place of glass, as a flexible circuit board, or as a binder.

ECRIOS™ was adopted for use in the world's first ultrathin organic solar battery that boasts exceptional heat resistance and energy conversion efficiency. The battery was recently developed by an international joint research group comprising members from the National Institute of Physical and Chemical Research (also known as Riken), Toray Industries, Inc., the Japan Science and Technology Agency, and other organizations.

ECRIOS™ was utilized in the substrate layer of the solar battery and significantly contributed to making the battery ultrathin (only 3μm) and heat resistant by improving surface flatness and thermal stability. Given that the solar battery is flexible and highly resistant to heat, it can be fastened to fabrics with an iron without impacting on the fabric's freedom of design and elasticity. The research group's use of ECRIOS™ should serve as a springboard from which we can expand its use to various applications outside of next-generation electronics.



Polyimide liquid solution—ECRIOS™

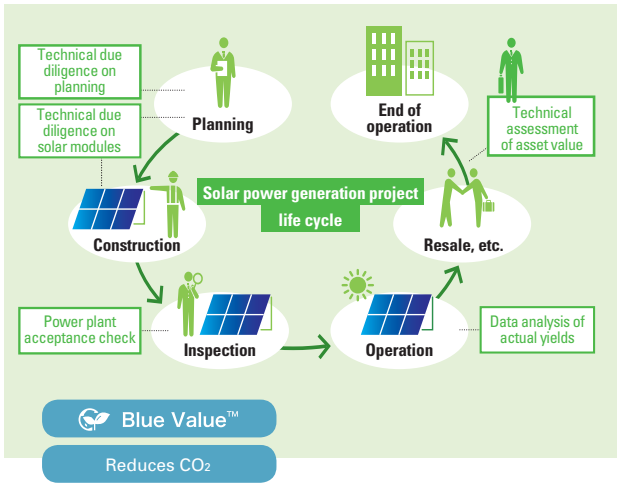
World's first ultrathin organic solar battery

Energy solutions

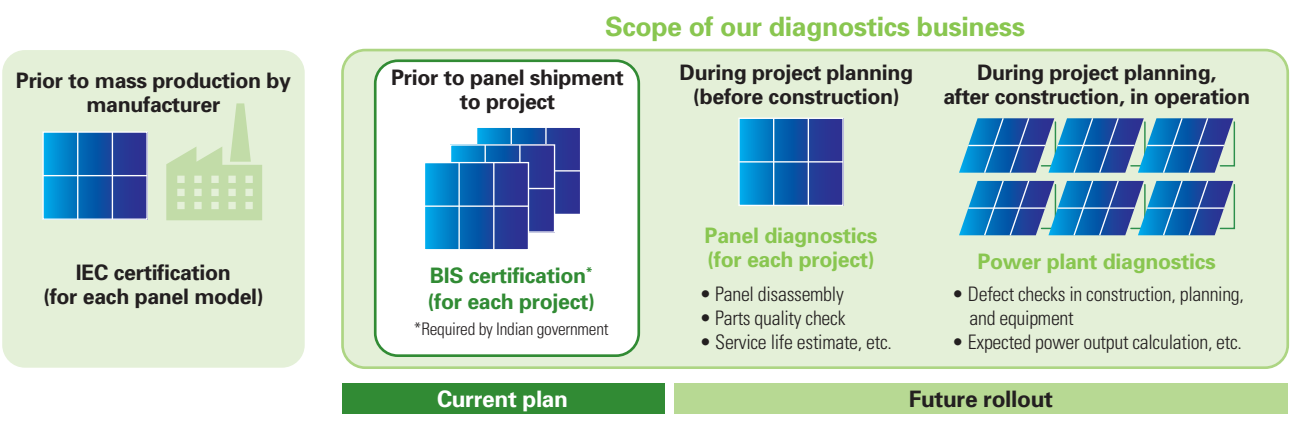
Diagnostics business for solar power generation

We are able to diagnose the overall condition of a solar power generation plant. We do this by accurately forecasting solar panel service life with technology that can predict deterioration in solar panel encapsulants, a product manufactured and sold by Mitsui Chemicals Tohcello, Inc. for more than 25 years. We also draw on our experience in developing and operating the Tahara SolarWind™ power generation facility, as well as data accumulated at the prototype power plants located in the Mobara Branch Factory and Sodegaura Center. In recent years, we have worked together with investment funds to share data on the volume of power generated at plants nationwide, which have helped us make even more accurate forecasts. In addition, we can offer our services to solar power generation plants that have installed increasingly popular storage battery facilities and predict changes in electricity sales volume that may result from restricted output. Moreover, in the fast-growing Indian market, we have opened a solar panel testing and certification lab and are currently making preparations to begin accepting BIS certification* testing from December 2019.

*BIS (Bureau of Indian Standards) certification is comparable to Japan's JIS certification but obtainable only through accredited organizations in India.



Business rollout in India

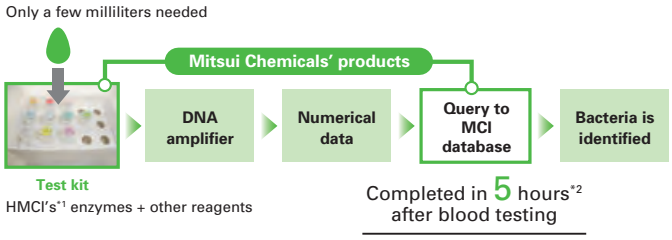


Medical solutions

Rapid identification system for sepsis-causing bacteria

Sepsis is a bacterial infection with a high mortality rate. Every year, 20–30 million people around the world develop sepsis, which kills about 10 million. More than one hundred types of bacteria can cause sepsis, therefore identifying which one has caused the infection as quickly as possible can significantly increase the survival rate. To address this issue, together with Toyama University we jointly developed a world-first revolutionary system capable of identifying the bacteria causing sepsis within about five hours after taking a blood sample—a process that currently takes around two to three days. We aim to file a new drug application in Japan in 2019 while conducting trials with multiple medical institutions, as well as launch the system in overseas markets.

Rapid bacteriological identification system



*1 Hokkaido Mitsui Chemicals, Inc.
*2 Experienced genetic testers using three samples

Joint research project adopted into AMED's ACT-M

In September 2018, the joint research project between Mitsui Chemicals and Toyama University was adopted into the basic scheme of the Acceleration Transformative Research for Medical Innovation (ACT-M) program of the Japan Agency for Medical Research and Development (AMED). The program aims to assist collaborative R&D between industry and academia. The research project was rated very highly after being implemented under AMED's set-up scheme (ACT-MS) of the same project between August 2016 and March 2018.

Given these developments, we continue to engage in the research. Our main subject of research is the quantitative determination of the bacterial count in blood, which through a process of clinical research, has the potential to be useful in medical treatment in the future.



Presentation of research results

TOPICS

Jointly developed a model eyeball for glaucoma surgery training

In a joint research project* with Nagoya University and the University of Tokyo, we developed a model eyeball for glaucoma surgery training that can be mounted in a humanoid eye surgery simulator. Glaucoma surgery usually involves making a thin cut in the sclera (the white part of the eye) to release intraocular pressure before it is closed up again. However, the lack of good enough model eyeballs to practice on has meant physicians have been unable to fully acquire the basic skills and engage in preoperative training. In this research project, by creating the structure of the sclera required for glaucoma surgery, we successfully developed a model eyeball with a hollow structure on which incisions and suturing can be performed. This model has enabled eye surgeons to practice their glaucoma surgery technique, which was not possible in the past.

*This research project was undertaken as part of the ImPACT program spearheaded by the Council for Science, Technology and Innovation in Japan's Cabinet Office.



Social issue

- Glaucoma: Leading cause of blindness in Japan
- 200,000 operations performed every year in Japan
- The lack of sophisticated surgery training dummies means physicians rely on real experience to improve their skills

Technology

Sophisticated model eyeball developed with a combination of materials

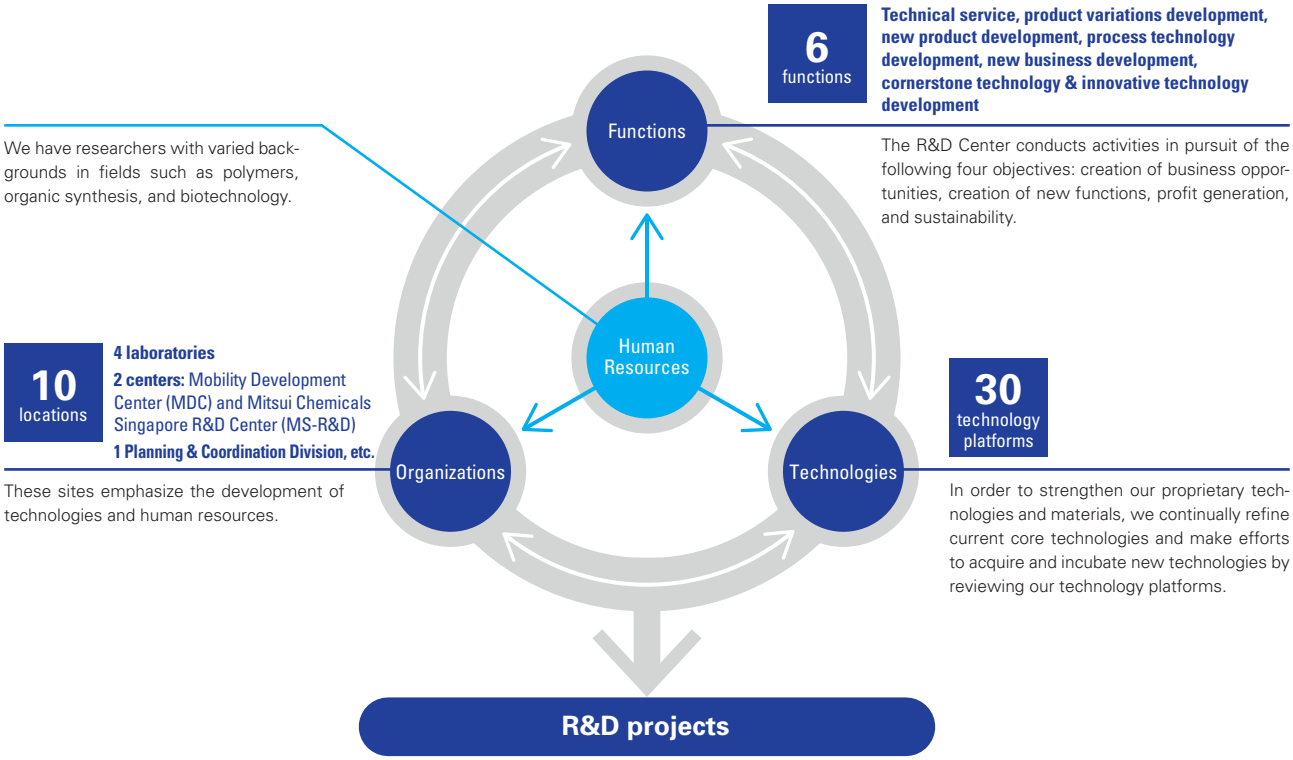
R&D Strategy

Basic Policy

Led by our R&D Center, we pursue innovation in materials to address various social challenges in the areas of the global environment, resources, energy, and food. In doing so, we can contribute to the realization of a cohesive society in harmony with the environment and health and well-being in an aging society, which eventually leads to the sustainable development of our society.

Research and Development (R&D) Strategy

Our R&D strategy—which aims to maintain and enhance current and future corporate value—is comprised of five parts: (1) functions; (2) organizations; (3) technologies; (4) human resources (that tie together the first three parts); and (5) individual R&D projects. We endeavor on a daily basis to reinforce and expand each of these parts with various measures based on the basic policy.



INTERVIEW



Kiyoshi Ito

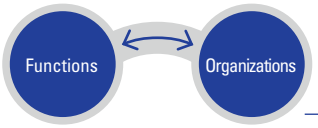
General Manager,
R&D Planning & Coordination Division
R&D Center

Conducting more innovative R&D more quickly

At Mitsui Chemicals, we have various ongoing R&D projects, big and small, that aim to enhance current and future corporate value of the Group. In recent years, however, the way to proceed with our projects has become increasingly diversified.

Not only do we undertake conventional projects to develop and provide customers with highly functional and high-quality materials, we are quickly transitioning to projects in which we go one step further to also propose to our customers solutions that help solve social trends and challenges based on our proprietary technologies and materials. Furthermore, sustainable projects that contribute to global environmental protection, or those that improve people's livelihoods are growing in importance.

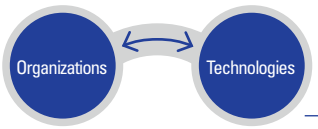
Under these circumstances, in order to more quickly execute more innovative research and development, we relentlessly strengthen, expand, and review the functions, organizations, and technologies tied to each project and also focus on developing the human resources to support this process.



Opening of new integrated product development site

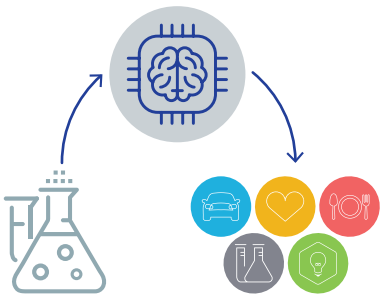
Construction of the new Design & Solution Center (D&SC) in the city of Sanjo, Niigata Prefecture has been completed. The site, which brings together the Mitsui Chemicals Group's product development capabilities, including design, analysis, molding, prototyping, and evaluation, has started providing solutions in the Mobility domain. By pooling all of these previously dispersed functions in one place, the D&SC can harness the Group's collective strengths to meet the increasingly sophisticated and diversified issues and needs of customers and quickly create prototypes and appeal their potentials. Up ahead, we aim to leverage this advantage to further accelerate growth in new businesses and expand our range of new products. The site has started providing solutions in the Mobility domain for now, but in the future, we plan to turn it into a manufacturing development hub for all three targeted business domains—including Health Care and Food & Packaging.

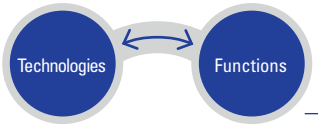




Establishment of MI Development & Promotion Department

In the conventional development process for materials, we accumulated data on the properties of materials through repeated verification by experiment and the correlation between material's chemical structure or production condition and desired product attributes by taking into account the intuition and experience of researcher or technicians. In recent years, however, materials informatics (MI) has garnered a lot of attention. MI uses AI and big data analysis technology to derive the correlation between a product's attributes and the material's chemical structure and production requirements. In Mitsui Chemicals, we have established the MI Development & Promotion Department at our Sodegaura Center with the goal of stepping up the pace of research and development by introducing MI-based analysis technology. By using MI to analyze the data we have accumulated on materials at our R&D sites, we are gaining a lot of new knowledge about our materials products, particularly catalysts and resins. Going forward, we hope to delve deeper into MI-based analysis technology to create new added-value for the materials products of the Mitsui Chemicals Group.





Exfola™ wins the Chemical Society of Japan award for technical development

Mitsui Chemicals received the 2018 Chemical Society of Japan Award for Technical Development in recognition of outstanding creativity and results relating to technology in the Japanese chemical industry. This award recognized Mitsui Chemicals' utilization of proprietary catalyst and synthesis technologies to successfully develop Exfola™, a new block polymer in which polyolefin and silicone are bonded together. The award also acknowledged the Company's accomplishment in commercializing Exfola™ as a polyolefin surface modifier and cultivating applications and customers. Exfola™ gives polyolefin the unique characteristics of silicone resin (release characteristics, water and oil repellency, abrasion resistance) and thus resolves issues seen with conventional silicone-based modifiers, such as incompatibility with polyolefin materials and poor moldability. For these reasons, it is used in food packaging and bottles because little food clings to its surface. Exfola™ is expected to be used in food packaging to help reduce food loss, in optical film for LCD panels, and in protective film for building materials. Going forward, we will step up the development of new applications in the health care field.



Awards ceremony



Launch of 0 to 1 Project with Chitose Group

Mitsui Chemicals and the Chitose Group, a collective of biotechnology startups, launched the "0 to 1 Project," an open innovation initiative to simultaneously develop businesses and talents. In order to respectively commercialize Mitsui Chemicals' plant cell culture technology and the Chitose Group's microbiota-activated cultivation technology, the two companies of PHYTO Renaissance Inc. and Tierraponica Inc. were established. The project aims to get the businesses of both of these companies on track for growth.

Businesses must go through a series of phases, starting from 0 to 1, followed by 1 to 10, and then 10 to 10,000, with each phase requiring entirely different funding levels, human resources, and organizational structures. This project aims to tap the extensive experience the Chitose Group has in launching new businesses (0 to 1 phase) and share its skills and know-how with large companies by fostering businesses and human resources to lead them.

PHYTO Renaissance Inc.
(Est. June 2018)

New technology:
Plant cell culture technology



Tierraponica Inc.
(Est. July 2018)

New technology:
Microbiota-activated cultivation technology

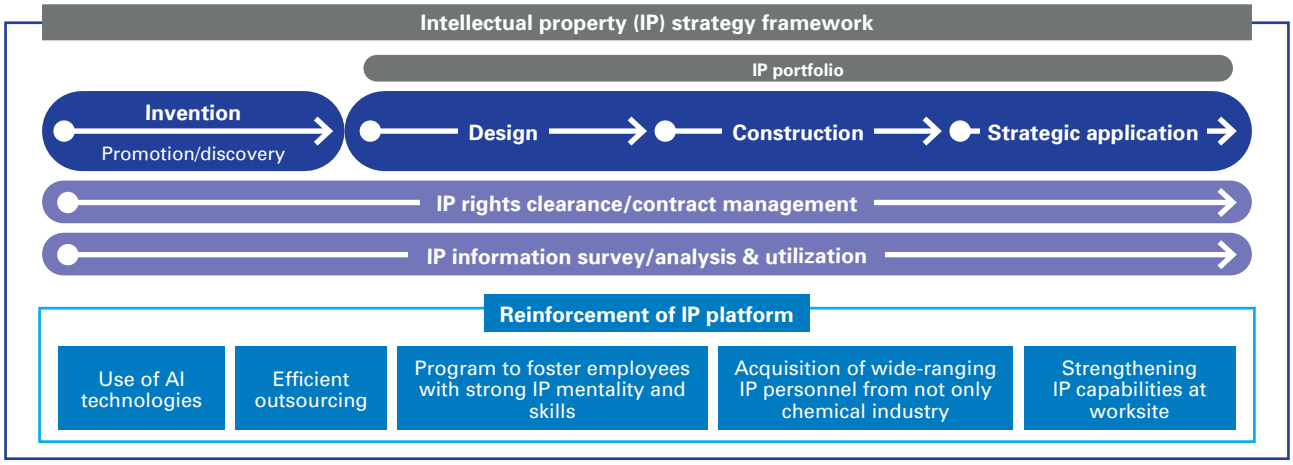


Intellectual Property Strategy

Basic Strategy

The Mitsui Chemicals Group recognizes intellectual property to be the intangible assets that contribute to business, which broadly include patents, confidential know-how, utility models, designs, brands (trademarks), copyrights, as well as rights under contract, trade secrets and the like. We believe that strategically designing and utilizing the best mix of our intellectual property is key to accomplishing sustained competitive advantage. At the same time, we respect the legitimate intellectual property rights of other companies and ensure compliance by taking appropriate responses and actions wherever necessary.

Under our 2025 Long-Term Business Plan, we intend to review our policy on acquiring and utilizing intellectual property in close collaboration with business divisions, R&D divisions, production/technology divisions, and other relevant departments within and outside of the Group. By constructing business-specific intellectual property portfolios, we aim to maximize the business opportunities afforded by intellectual property and minimize any business risks associated with intellectual property.



INTERVIEW

Shifting our weight to consulting-based activities to proactively propose intellectual property strategies



Masayoshi Yamaguchi
General Manager,
Intellectual Property Division

In line with the Company's current pursuit of customer-driven innovation, we are looking to shift the weight of activities conducted by the Intellectual Property Division. Specifically, we want to engage in more consulting-based activities and spearhead proposals on intellectual property strategy instead of simply performing agency-like duties that sees us responding to intellectual property requests from business divisions and R&D divisions. As intellectual property experts, we aim to contribute to each stage of the intellectual property portfolio construction process for each business; namely, making overall business forecasts, thoroughly visualizing what kind of intellectual properties the business in question will require to drive future growth, and taking steps to acquire what are and will be needed. To achieve this, it is crucial that we deepen collaboration with mainly R&D divisions, business divisions, and production/technology divisions to gain a more specific understanding of what may be indispensable now as well as in the future. We also recognize the increasing importance of taking an overview of the business as a whole, for example, by acquiring patents that make our products easier to use from an end user's perspective, so as to avoid any conflicts of rights.

While pushing ahead with this kind of aggressive intellectual property strategy, given that the number of patent applications worldwide, especially in China, is growing year by year, we must be more prepared than ever before to ensure that those patents do not pose any risk to our Company's businesses. In order to produce significant results with our limited human resources, we aim to be an intellectual property department that contributes to the exponential growth for the future by effectively leveraging AI technology and outsourcing.

TOPICS

Mitsui Chemicals named in Derwent Top 100 Global Innovators 2018-19 Report

In recognition of our intellectual property activities in Japan and overseas, Mitsui Chemicals was named in the Derwent Top 100 Global Innovators 2018-19 Report by Clarivate Analytics, a global data services company. This is the third time we have been selected, following 2015 and 2017. Leveraging proprietary evaluation criteria based on its own patent database, Clarivate Analytics recognizes companies that are innovative, strive to comply with intellectual property rights protection, and develop inventions that have global influence. Of the four key criteria, Mitsui Chemicals was again recognized for "globalization" as having a strong global reach.



Intellectual property:
https://www.mitsuichem.com/en/techno/ip/

Human Resources Strategy

Basic Strategies

The Mitsui Chemicals Group sets out three basic strategies: (1) pursuing innovation, (2) accelerating global expansion, and (3) strengthening the competitiveness of existing businesses in our 2025 Long-Term Business Plan. Human resources will serve as one of our most valuable management resources in the implementation of these strategies. The Group will continue working on enhancing our corporate value and achieving the Long-Term Business Plan targets through comprehensive management of recruiting, development and training, placement, and utilization of human resources.

Key Talent Management: Developing Future Leaders

It is a pressing task for the Group to recruit, develop, and train future leaders, as well as human resources who are capable of managing our overseas subsidiaries and affiliates, the number of which are increasing due to overseas development and M&As. To this end, the Group has introduced the Key Talent Management system, which began operations in fiscal 2016.

We will further develop this system, in order to promote the development and training of employees who will ensure the continued growth for the Group.

Overview of Key Talent Management



(1) Key Talents and Management Candidates

Among the Group's worldwide human resources, those who consistently demonstrate a high level of performance and competence, potential, and enthusiasm are identified as key talents. Among such key talents, those who have the potential to become future leaders are selected as management candidates.

(2) Key Talent Management Committees

The Key Talent Management Committees have been established as a body to select key talents/management candidates, approve development plans, and review their results. The Committees review the work experience of selected human resources, and determine where they should be assigned based on five perspectives: managerial view point, business restructuring, new business development, Company-wide projects, and the operations of overseas subsidiaries and affiliates.

Progress in Fiscal 2018

- Held meetings of the Divisional Key Talent Management Committees in all divisions (both business and functional), selected key talents, and formulated individual development plans (placement and training).
- In the Company-wide Key Talent Management Committee which brings all management in one place, reviewed and confirmed the direction of individual development plans (placement and training) for those management candidates selected from over 150 General Managers and Directors at Mitsui Chemicals and its affiliates, as well as plans for those key talents selected from Supervisors at Mitsui Chemicals (and equivalent positions at affiliates).
- Revised succession plans for the 100 critical positions based on the business strategies for fiscal 2018.
- As part of our increasing diversity, shared and confirmed the individual development plans for female management candidates who had been selected as key talents.

Specific Plans Going Forward

(1) Conduct follow-ups on individual development plans (placement and training) for those management candidates selected from among General Managers (including presidents at affiliates) and Directors at Mitsui Chemicals, and conduct individual discussions to support the development plan for those who have been newly selected.
(2) Continually review the individual development plans for those key talents selected from Supervisors at Mitsui Chemicals (and equivalent positions at affiliates).
(3) As in fiscal 2018, revise succession plans for the 100 critical positions based on our new strategies.
(4) Strengthen the assessments of management candidates.

Example of Activity

Appointment of locally-hired employees at overseas affiliate

One example of implementing an individual development plan for management candidates through deliberations at the Key Talent Management Committee is the appointment of a locally-hired employee of an overseas affiliate to a top position in the company. This initiative has actually contributed to promoting localization. At Mitsui Chemicals India, one of our major affiliates, employees assigned from Japan had served in the position of the president since the company was established. At the same time, we had provided opportunities for Mr. Suraj Arya, who had consistently demonstrated outstanding performance and potential, to participate in several global training sessions in a planned manner, while simultaneously appointing him to the position of the vice president. This approach had provided him an opportunity to learn corporate management from a higher perspective. As a result, Mr. Arya assumed the position of the president of Mitsui Chemicals India in July 2018, and has been undertaking various challenges in order to accelerate business growth in India.

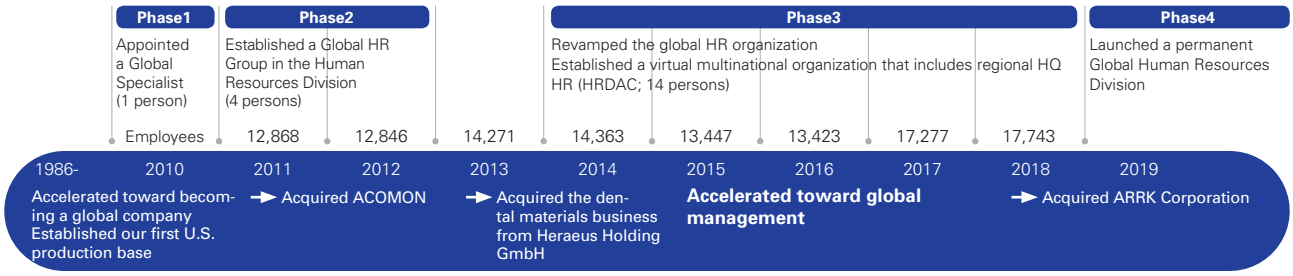


Suraj Arya
Mitsui Chemicals India Pvt. Ltd.
President

Human Resources Strategy

Launching the Global Human Resources Division and enhancing our global human resources management framework

History of Group Globalization and Global HR



Global Human Resources Strategies

Since the founding of Mitsui Chemicals in 1997, the Group's consolidated companies have grown in number to a total of 155, and our consolidated employees (as of March 31, 2019, excluding contract employees) have increased to 17,743 persons. The overseas sales ratio has expanded to 45%. With the progress of business globalization, we have worked to build a framework on a global basis in the area of human resources management, including the operation of overseas bases, as well as post-merger integration (PMI) for cross-border M&As. In order to further accelerate these efforts, we established the Global Human Resources Division in April 2019 to expand from our conventional virtual HR organization to a permanent global HR organization. We will enhance our global business competitiveness by executing effective human resources management on a Group and global level, and enhancing our human resources governance. Following the launch of the Division, we established functions for system development at the global headquarters, including talent management, human resources development and training, and compensation and evaluation. At the same time, we are using schemes from the HR Development Advisory Committee (HRDAC), a virtual project framework involving human resources at the regional headquarters, held continuously since 2014, in order to accelerate the planning of various globally-shared programs and expansion into local regions. We have redefined matters that should be unified globally, as well as matters that should be operated with a degree of freedom in each region or company. We operate the human resources organization that supports both effective human resources management on a Group and global level and the growth of each region and our businesses.

Status of Initiatives for HR Challenges

Key HR challenges	Items	2018 progress and outstanding issues
Establishing globally-unified HR tools and policies across each business site around the world by overcoming regional differences.	Common competencies (qualification requirements)	Requirements drafted and rolled out to some regions
	HR database	Compilation completed with the exception of some subsidiaries
	Grading system	Expanding in a phased manner
	Secondment system, compensation system, etc.	Policy revisions planned
Building a holistic communication network that enables all HRs from every country to connect globally beyond their region or nation.	Communication platform	Considering launch of new shared system
Securing, developing, and training an outstanding pool of talents with a range of different backgrounds who can work effectively on a global stage.	Talent management	Increased identification and ongoing development of talent

Example of Activity Starting HR meetings in Europe



The Group holds HR meetings for each region, in order to implement our global HR measures. The history of holding the meetings is longest in Asia, with the 13th meeting held in fiscal 2019.

The ARRK Group, which joined our Group in 2018 through transfer of shares, has approximately 2,000 employees in Europe. We now have over 3,000 employees in Europe, including Mitsui Chemicals Europe, Kulzer Group, and ACOMON, making Europe our largest area outside of Japan. Accordingly, as a new undertaking, we held HR meetings with all HRs in the European region gathered in one place at Kulzer (Hanau) in fiscal 2018 and ARRK Engineering (Munich) in fiscal 2019, in order to explore matters on which we can cooperate.

Human Resources Management
https://www.mitsuichem.com/en/sustainability/society/employee/

Global Employee Engagement Survey

Background and Overview of the Survey

In preparation for implementing our 2025 Long-Term Business Plan, we consider Group employee engagement to be extremely important. We, therefore, conducted an online survey in June 2018 to measure individual engagement levels and investigate the underlying factors for all employees of the Mitsui Chemicals Group. This was the first survey to cover all Group employees, and 87% of the employees responded. Their opinions provided us with many suggestions that improved our understanding of the Group-wide HR challenges. The results of the survey have been shared with our management, and we are currently working on an action plan on a Group-wide basis. Characteristics of the Group revealed through this survey include an incredibly strong culture of safety and an emphasis on autonomy and delegation of authority. Two points also raised and expected to help contribute to higher engagement going forward are: dialogue with management and skill development and careers. The results of this survey can be analyzed by the unit of Head Office division, affiliate, or subsidiary. Therefore, leaders and HR division in each organization have worked together to formulate improvement action plans that are suitable for individual departments, and are working on the specific measures to improve the level of engagement. In order to further raise the engagement level in the entire Group, this survey will continue to be conducted every two to three years.

Engagement Factor Score

Mitsui Chemicals Group top factors = three areas in which we are strong

Safety 47%	Brand as an employer 39%	Delegation of authority/ Autonomy 38%

Mitsui Chemicals Group bottom factors = three areas in which we face challenges

Learning and self-development 22%	Career opportunities 18%	Human resources utilization and assignment 15%

MESSAGE

Our global human resources strategies



Shingo Ono
Deputy General Manager,
Global Human Resources Division

Our global workforce is now approaching a total of 20,000 persons owing to the steady progress of our 2025 Long-Term Business Plan.

With the recent progress in M&As and the creation of new businesses, a new business with a service model featuring customer-driven innovation has been added to our business portfolio, thereby enhancing its diversity.

Chemical manufacturers have highly diverse technologies and human resources, and accelerated collaboration between them creates greater customer value. I believe that the enhancement of our individual identities and communication with people inside and outside the Group will serve as the driving force behind the creation of new value in the age of VUCA (Volatility, Uncertainty, Complexity, and Ambiguity), and the driving force behind that is our employees.

For that reason, our Global Human Resources Division will work together with Mitsui Chemicals Group leaders to understand all of our employees around the world through the Key Talent Management system and global employee engagement surveys, and accelerate the necessary support to allow individual employees to demonstrate high engagement and a commitment to business growth.

We, as a business partner, will work on solving issues globally beyond regional boundaries, under our motto of contributing to value by understanding business strategies and providing a global platform that contributes to their implementation.

Members of the Board, Corporate Auditors



Outside Corporate Auditor
Mikio Fujitsuka

Member of the Board,
Senior Managing Executive Officer
Osamu Hashimoto

Outside Corporate Auditor
Katsuyoshi Shinbo

Outside Corporate Auditor
Shozo Tokuda

Member of the Board,
Outside Director
Yukiko Yoshimaru

Member of the Board,
Outside Director
Hajime Bada

Member of the Board,
Outside Director
Yukiko Kuroda



Corporate Auditor
Akio Ayukawa

Corporate Auditor
Shigeru Isayama

Member of the Board,
Senior Managing Executive Officer
Takayoshi Shimogori

Representative Director,
Member of the Board,
President & CEO
Tsutomu Tannowa

Representative Director,
Member of the Board,
Executive Vice President
Masaharu Kubo

Representative Director,
Member of the Board,
Senior Managing Executive Officer
Hideki Matsuo

Board of Directors, Board of Corporate Auditors, and Executive Officers

(As of June 25, 2019)

Board of Directors



Board of Directors Attended/Meetings Held: 11/11

Representative Director, Member of the Board, President & CEO

Tsutomu Tannowa

Apr. 1976 Joined Mitsui Toatsu Chemicals, Inc.
Apr. 2007 Executive Officer of the Company
General Manager, Human Resources & Employee Relations Div.
Apr. 2010 Managing Executive Officer of the Company
Business Sector President, Basic Chemicals Business Sector
Jun. 2012 Member of the Board, Managing Executive Officer of the Company
Apr. 2013 Member of the Board, Senior Managing Executive Officer of the Company
Apr. 2014 Representative Director, Member of the Board, President & CEO of the Company (to present)



Board of Directors Attended/Meetings Held: 11/11

Representative Director, Member of the Board, Executive Vice President

Masaharu Kubo

Apr. 1980 Joined the Company
Apr. 2010 Executive Officer of the Company
General Manager, Corporate Administration Div.
Apr. 2013 Managing Executive Officer of the Company
Jun. 2013 Member of the Board, Managing Executive Officer of the Company
Apr. 2014 Member of the Board, Senior Managing Executive Officer of the Company
Apr. 2016 Representative Director, Member of the Board, Senior Managing Executive Officer of the Company
Apr. 2017 Representative Director, Member of the Board, Executive Vice President of the Company (to present)



Board of Directors Attended/Meetings Held: 11/11

Representative Director, Member of the Board, Senior Managing Executive Officer

Hideki Matsuo

Apr. 1982 Joined Mitsui Toatsu Chemicals, Inc.
Apr. 2013 Executive Officer of the Company
Center Executive, Production & Technology Center
Apr. 2014 Managing Executive Officer of the Company
Center Executive, Production & Technology Center
Jun. 2016 Member of the Board, Managing Executive Officer of the Company, Center Executive, Production & Technology Center
Apr. 2017 Member of the Board, Senior Managing Executive Officer of the Company, Center Executive, Production & Technology Center
Apr. 2018 Representative Director, Member of the Board, Senior Managing Executive Officer of the Company (to present)



Board of Directors Attended/Meetings Held: 11/11

Member of the Board, Senior Managing Executive Officer

Takayoshi Shimogori

Apr. 1985 Joined the Company
Apr. 2014 Executive Officer of the Company, General Manager, Performance Compound Div., Functional Polymeric Materials Business Sector
Apr. 2015 Executive Officer of the Company, Business Sector President, Functional Polymeric Materials Business Sector
Apr. 2016 Managing Executive Officer of the Company Business Sector President, Mobility Business Sector
Apr. 2017 Managing Executive Officer of the Company Business Sector President, Food & Packaging Business Sector, and Business Sector President, Mobility Business Sector
Jun. 2017 Member of the Board, Managing Executive Officer of the Company, Business Sector President, Food & Packaging Business Sector, and Business Sector President, Mobility Business Sector
Mar. 2018 Chairman of ARRK Corporation (to present)
Apr. 2018 Member of the Board, Senior Managing Executive Officer of the Company, Business Sector President, Food & Packaging Business Sector (to present)

Independent Outside Directors



Board of Directors Attended/Meetings Held: 9/9*1

Member of the Board, Senior Managing Executive Officer

Osamu Hashimoto

Apr. 1987 Joined the Company
Apr. 2012 General Manager, Planning and Administration Div., Functional Chemicals Business Sector
Apr. 2014 Senior Director, Planning and Administration Div., Functional Chemicals Business Sector
Oct. 2014 Senior Director, General Manager, Corporate Planning Div.
Apr. 2015 Executive Officer of the Company
General Manager, Corporate Planning Div.
Apr. 2017 Managing Executive Officer of the Company
Business Sector President, Health Care Business Sector, and General Manager, New Health Care Business Development Div.
Sep. 2017 Managing Executive Officer of the Company
Business Sector President, Health Care Business Sector
Jun. 2018 Member of the Board, Managing Executive Officer of the Company, Business Sector President, Health Care Business Sector
Apr. 2019 Member of the Board, Senior Managing Executive Officer of the Company, Business Sector President, Health Care Business Sector (to present)

*1 The number of meetings held since Mr. Hashimoto's appointment.



Board of Directors Attended/Meetings Held: 11/11

Member of the Board, Outside Director

Yukiko Kuroda

Apr. 1986 Joined Sony Corporation
Jan. 1991 Representative Director of People Focus Consulting
Jun. 2010 Outside Audit & Supervisory Board Member of Astellas Pharma Inc.
Mar. 2011 Outside Director of CAC Corporation (currently CAC Holdings Corporation) (to present)
Apr. 2012 Managing Director and Founder of People Focus Consulting (to present)
Jun. 2013 Outside Director of Marubeni Corporation
Jun. 2015 Member of the Board of the Company (to present)
Jun. 2018 Outside Director of Seven Bank, Ltd. (to present)
Outside Director of Terumo Corporation (to present)

Major Activities

Ms. Yukiko Kuroda primarily speaks about sound and efficient corporate management from the point of view of one concerned with the validity of business execution and corporate social responsibility based on her extensive experience as a corporate manager and as an outside officer and consultant at other companies.



Board of Directors Attended/Meetings Held: 10/11

Member of the Board, Outside Director

Hajime Bada

Apr. 1973 Joined Kawasaki Steel Corporation (currently JFE Steel Corporation)
Jun. 2000 Director of Kawasaki Steel Corporation
Apr. 2003 Senior Vice President of JFE Steel Corporation
Apr. 2005 Representative Director, President and CEO of JFE Steel Corporation
May 2006 Chairman of The Japan Iron and Steel Federation
Apr. 2010 Representative Director, President and CEO of JFE Holdings, Inc.
Apr. 2015 Director of JFE Holdings, Inc.
Jun. 2015 Advisor of JFE Holdings, Inc. (to present)
Jun. 2016 Member of the Board of the Company (to present)
Outside Corporate Auditor of ASAGAMI CORPORATION (to present)
Jun. 2018 Outside Director of NSK Ltd. (to present)

Major Activities

Mr. Hajime Bada primarily speaks about sound and efficient corporate management from the point of view of one concerned with the validity of business execution and the intrinsic nature of the Mitsui Chemicals Group based on his extensive experience as a corporate manager and president of an industry organization.



Newly appointed

Member of the Board, Outside Director

Yukiko Yoshimaru

Apr. 1982 Joined Oki Electric Industry Co., Ltd.
Apr. 1998 Director of Oki America Inc., and Head of New York Office of Oki Electric Industry Co., Ltd.
Oct. 2004 General Manager of Diversity Development Office of NISSAN MOTOR CO., LTD.
Apr. 2008 Joined Nifco Inc.
Jun. 2011 Executive Officer of Nifco Inc.
Apr. 2018 Outside Director of Sekisui House, Ltd. (to present)

Reasons for nomination

Ms. Yukiko Yoshimaru has experience as an officer of other companies in areas such as diversity promotion, and in-depth knowledge acquired through her extensive global experience. We expect that she will provide useful advice to the Company's corporate management, and accordingly believe that she is the right person for the post of Outside Director.

Executive Officers

President & CEO	Tsutomu Tannowa	Overall corporate and group management
Executive Vice President	Masaharu Kubo	Executive Advisor (CFO) Responsibilities: Finance & Accounting Div. and Corporate Sustainability Committee
Senior Managing Executive Officer	Hideki Matsuo	Executive Advisor (CTO) Responsibilities: R&D Center, RC & Quality Assurance Div., Responsible Care Committee, Production & Technology Center, Fabricated Products Business Coordination Div. and Intellectual Property Div.
Senior Managing Executive Officer	Takayoshi Shimogori	Business Sector President, Food & Packaging Business Sector Responsibilities: Mobility Business Sector, New Mobility Business Development Div. and Robot Materials Business Development Div.
Senior Managing Executive Officer	Osamu Hashimoto	Business Sector President, Health Care Business Sector Responsibilities: New Health Care Business Development Div. and H-Project Div.

Managing Executive Officer	Shin Fukuda	Center Executive, R&D Center Responsibility: Next Generation Business Development Div.
Managing Executive Officer	Koichiro Sato	Business Sector President, Mobility Business Sector Responsibility: Nagoya Branch
Managing Executive Officer	Hiroshi Tsunashima	Center Executive, Production & Technology Center Responsibility: Works
Managing Executive Officer	Tadashi Yoshino	Business Sector President, Basic Materials Business Sector Responsibilities: Nghi Son-Project Div., Osaka Branch and Fukuoka Branch
Managing Executive Officer	Keishi Susowake	Responsibilities: Corporate Administration & Legal Div., Purchasing Div., Logistics Div., Corporate Communications Div. and Risk Compliance Committee
Managing Executive Officer	Yoshinori Andou	General Manager, Global Human Resources Div. Responsibilities: Human Resources Div., Global Human Resources Div., Mitsui Chemicals Asia Pacific, Mitsui Chemicals China, Mitsui Chemicals America, Mitsui Chemicals Europe and Affiliates Coordination Div.
Managing Executive Officer	Akio Hirahara	Responsibilities: Corporate Planning Div. and Information System Div.

Board of Corporate Auditors



Board of Directors Attended/Meetings Held: 11/11
Board of Auditors Attended/Meetings Held: 15/15

Corporate Auditor

Akio Ayukawa

Apr. 1975 Joined the Company
Jun. 2011 Executive Officer of the Company
Business Sector President, Petrochemicals Business Sector
Jun. 2012 Managing Executive Officer of the Company
Business Sector President, Petrochemicals Business Sector
Apr. 2014 Managing Executive Officer of the Company
Jun. 2014 Member of the Board, Managing Executive Officer of the Company
Apr. 2015 Member of the Board, Senior Managing Executive Officer of the Company
Apr. 2016 Member of the Board of the Company
Jun. 2016 Corporate Auditor of the Company (to present)



Board of Directors Attended/Meetings Held: 9/9*2
Board of Auditors Attended/Meetings Held: 12/12*2

Corporate Auditor

Shigeru Isayama

Apr. 1980 Joined the Company
Apr. 2007 Executive Officer of the Company, General Manager, Information & Electronics Materials Div., Performance Materials Business Sector
Apr. 2009 Executive Officer of the Company, General Manager, Business Planning & Development Div., Performance Materials Business Sector
Jun. 2009 Member of the Board of the Company, Business Sector Vice President, Performance Materials Business Sector, and General Manager, Business Planning & Development Div., Performance Materials Business Sector
Jun. 2011 Assistant to the President of the Company
Representative in the Americas, and General Manager, Mitsui Chemicals America, Inc.
Apr. 2013 Managing Executive Officer of the Company
Jun. 2013 Member of the Board, Managing Executive Officer of the Company
Apr. 2016 Representative Director, Member of the Board, Senior Managing Executive Officer of the Company
Apr. 2018 Member of the Board of the Company
Jun. 2018 Corporate Auditor of the Company (to present)

*2 The number of meetings held since Mr. Isayama's appointment.

Independent Outside Corporate Auditors



Board of Directors Attended/Meetings Held: 11/11
Board of Auditors Attended/Meetings Held: 14/15

Outside Corporate Auditor

Katsuyoshi Shinbo

Apr. 1984 Registered as an attorney
Nov. 1999 Attorney at Shinbo Law Office (currently Shinbo & Partners) (to present)
Jun. 2015 Outside Corporate Auditor of Sumitomo Mitsui Banking Corporation
Jun. 2017 Corporate Auditor of the Company (to present)
Outside Corporate Auditor of Sumitomo Mitsui Financial Group, Inc. (to present)

Major Activities

Mr. Katsuyoshi Shinbo primarily speaks about sound and efficient corporate management from the perspectives of ensuring appropriate business execution of the Company and reinforcing management oversight functions of the Board of Directors based on his specialist knowledge and extensive experience not only as a long-standing lawyer but also as an outside officer of other companies.



Board of Directors Attended/Meetings Held: 11/11
Board of Auditors Attended/Meetings Held: 15/15

Outside Corporate Auditor

Shozo Tokuda

Nov. 1981 Joined Asahi Accounting Company (currently KPMG AZSA LLC)
Aug. 1985 Registered as a certified public accountant
Jul. 2002 Representative Partner of Asahi & Co. (currently KPMG AZSA LLC)
Jun. 2006 Board Member of KPMG AZSA & Co. (currently KPMG AZSA LLC)
Jun. 2010 Senior Board Member of KPMG AZSA & Co. (currently KPMG AZSA LLC)
Jul. 2015 Senior Partner of KPMG AZSA LLC
Jun. 2017 Outside Audit & Supervisory Board Member of ITOCHU ENEX CO., LTD. (to present)
Corporate Auditor of the Company (to present)

Major Activities

Mr. Shozo Tokuda primarily speaks about sound and efficient corporate management from the perspectives of ensuring appropriate business execution of the Company and reinforcing management oversight functions of the Board of Directors based on his specialist knowledge and extensive experience not only as a long-standing certified public accountant but also as an outside officer of other companies.



Newly appointed

Outside Corporate Auditor

Mikio Fujitsuka

Apr. 1977 Joined Komatsu Ltd.
Apr. 2005 Executive Officer of Komatsu Ltd.
Apr. 2010 Senior Executive Officer (Jomu) of Komatsu Ltd.
Apr. 2011 Senior Executive Officer (Jomu) and CFO of Komatsu Ltd.
Jun. 2011 Director, Senior Executive Officer (Jomu) and CFO of Komatsu Ltd.
Apr. 2013 Director, Senior Executive Officer (Senmu) and CFO of Komatsu Ltd.
Apr. 2016 Representative Director, Executive Vice President and CFO of Komatsu Ltd.
Apr. 2018 Representative Director and Executive Vice President of Komatsu Ltd.
Apr. 2019 Director of Komatsu Ltd.
Jun.2019 Adviser of Komatsu Ltd. (to present)
Corporate Auditor of the Company (to present)

Reasons for nomination

Mr. Mikio Fujitsuka has extensive experience as a corporate manager, and in-depth knowledge in the areas of financial accounting, corporate ethics and crisis and risk management based on his experience as CFO of a listed company. From the viewpoint of ensuring appropriate business execution of the Company, we believe that he is the right person for the post of Outside Corporate Auditor.

Executive Officer	Yasunori Nishiyama	Representative in the Americas President, Mitsui Chemicals America President, Whole You
Executive Officer	Satoshi Ozawa	President, Mitsui Chemicals Agro
Executive Officer	Ichiro Kondo	General Manager, Ichihara Works
Executive Officer	Yasuhiro Hosomi	General Manager, Iwakuni-Ohtake Works
Executive Officer	Takehiko Takagi	General Manager, Osaka Works
Executive Officer	Akihiro Tachibana	Business Sector Vice President, Health Care Business Sector and General Manager, Nonwovens Div., Health Care Business Sector
Executive Officer	Hajime Nakajima	General Manager, Finance & Accounting Div.
Executive Officer	Hiroshi Nishio	General Manager, Internal Control Div.
Executive Officer	Koichi Yanase	Business Sector Vice President, Mobility Business Sector and General Manager, Planning & Coordination Div., Mobility Business Sector

Executive Officer	Shingo Shibata	Co-CEO, Mitsui Chemicals & SKC Polyurethanes (Korea) and President, Mitsui Chemicals & SKC Polyurethanes (Japan)
Executive Officer	Atsushi Komoriya	President, ARRK Corporation
Executive Officer	Fumio Yoshizumi	Business Sector Vice President, Basic Materials Business Sector
Executive Officer	Masayuki Kinoshita	General Manager, Human Resources Div.
Executive Officer	Toshihiro Takai	General Manager, Omuta Works
Executive Officer	Kensuke Fujimoto	President, Prime Polymer
Executive Officer	Shigeharu Matsuzaka	General Manager, Planning & Coordination Div., Food & Packaging Business Sector

Discussion between Outside Directors and CFO



Masaharu Kubo
Representative Director
Executive Vice President & CFO



Ms. Yukiko Kuroda
Outside Director
Managing Director and Founder of People Focus Consulting
Outside Director of CAC Holdings Corporation
Outside Director of Seven Bank, Ltd.
Outside Director of Terumo Corporation



Mr. Hajime Bada
Outside Director
Advisor of JFE Holdings, Inc.
Outside Corporate Auditor of ASAGAMI CORPORATION
Outside Director of NSK Ltd.



Ms. Yukiko Yoshimaru
Outside Director
Outside Director of Sekisui House, Ltd.

Realizing effective governance and initiatives for future growth

Free and open discussions during Board meetings

Kubo

Even prior to the establishment of Mitsui Chemicals in 1997 we had welcomed outside directors into the Company with the aim of enlivening meetings of the Board of Directors. I'd first like to hear from you, our outside directors, about how you view the Company's Board meetings.

Kuroda

My impression of Board meetings at Mitsui Chemicals is that they are always conducive to free and open discussion and the exchange of opinions. There is also a really diverse mix of outside directors and corporate auditors, which enables us to make remarks from multiple viewpoints.

The internal directors kindly explain some hard-to-understand Company matters in detail and at times take issue with our opinions, which I think points to healthy Board meeting discussions. It's really valuable that internal directors earnestly listen to the opinions of outside directors.

Furthermore, even though all of the outside directors do not necessarily possess extensive knowledge of the chemical industry, we are really thankful for being given advance briefings on matters some of us are not familiar with, opportunities to learn about the Company's businesses, and even chances to visit some business sites.

Bada

I feel that discussions at Mitsui Chemicals' Board of Directors meetings are focused on plans and projects that require a long-term perspective, particularly those with a high degree of importance.

Outside directors are required to voice their opinions as a third party, but at the same time, it's becoming more necessary that they make comments with a complete understanding of the project in question. For this reason, I don't think they can keep up with discussions if they have no knowledge of actual operations. It's been three years since I assumed the role of outside director and I've been able to visit various production sites during the period. I've been to nearly all the domestic plants and major overseas bases mainly in Europe, the US, and Southeast Asia. I originally worked in the steel industry, so I thought I would have a good understanding of how plants operate, but I soon discovered after visiting them that plants in the chemical industry are completely different from those in the steel industry.

In this sense, I highly appreciate how Mitsui Chemicals provides thoughtful explanations to its outside directors so we get a better understanding of how it does business.

Kubo

Director Yoshimaru, you will start attending Board meetings from fiscal 2019 as a newly appointed outside director. In light of your experience so far as an executive officer and as an outside director at other companies, I'd like to hear your thoughts on what kind of meeting body the Board of Directors should be.

Yoshimaru

I think various examinations are carried out in advance so as to proceed difficult discussions at Board of Directors meetings on the assumption that important decisions are to be made. Still, the Board cannot avoid a clash of opinions. And I believe, such conflicting views are what matters most for the Board to best reach its conclusions drawing upon the opinions of highly experienced outside directors with different perspectives. Progress thereafter should then be monitored accordingly. I hope to contribute to this process as much as possible.

Another point I'd like to make is that during Board meeting discussions, it may be extremely worthwhile to hear the opinions from internal directors on the business areas they are not in charge of.

As we face historical inflection points and continue to undergo various changes, I look forward to seeing what opinions and contributions I can bring to Board meetings.

Kubo

Much focus recently has been on the role of outside directors in terms of their involvement in matters related to top management personnel affairs and executive compensation. I'd like to hear the thoughts of our Director Kuroda, about the Company's two Advisory Committees tasked with addressing agenda items related to human resources and compensation, as a member of those Committees.

Kuroda

While both Committees are positioned as advisory bodies, the Company ensures a scheme where decisions cannot be made solely by the president. For example, the Human Resource Advisory Committee is comprised entirely of outside directors, with the president being the only exception, and realizes comprehensive discussions about extremely important personnel matters. I think the two Committees deliver an advanced level of corporate governance in the sense that the discussions that take place there are quite substantive despite their advisory role.

Unceasing reforms to improve Board effectiveness

Kubo

Next, I'd like to ask some questions about the Board's effectiveness evaluation process. Every year at Mitsui Chemicals we evaluate the effectiveness of the Board of Directors. The process involves all directors and corporate auditors taking a survey and then only outside directors and outside corporate auditors engaging in discussions based on the survey results. The results are then discussed by the Board. And recently the Board of Directors at Mitsui Chemicals has been assessed by an external body to determine whether it is functioning effectively. Through this assessment process, we are trying to visualize in which areas our Board excels compared to other companies and what kind of issues need addressing.

We have again conducted this effectiveness evaluation for fiscal 2018 and are pushing ahead with some reforms, but I'd like to hear your opinions on the Board's effectiveness mainly with respect to agenda items of the meeting only among outside directors and outside corporate auditors and the reform process implemented thus far.

Kuroda

Comparison scores are given as part of the effectiveness evaluation conducted by an external agency. In most categories, Mitsui Chemicals has obtained higher scores than other companies. Instead of slipping into self-complacency, however, the Company always looks to change things that need changing and takes steps to make improvements every year. I think this is a really wonderful aspect of the Company.

One area that has been improved is agenda submissions standards. These are the rules on agenda items, which determine what topics should be discussed at Board meetings. As a result, our Board meetings now focus more on high-priority and strategically important matters.

Furthermore, because I assumed my role immediately prior to the announcement of the current Long-Term Business Plan, agenda items at Board meetings at that time were mostly focused on the preparation of the plan, but I get the impression that recent discussions have been concerned more with day-to-day operations. Given that a medium- to long-term perspective is essential to management decision-making, I mentioned in the effectiveness evaluation survey that even when we discuss operational issues, we should also be looking at how they should be in the positioning of the Long-Term Business Plan. And as quickly as the other day, an agenda item related to this issue was included and discussed in the meeting of the Board of Directors.

Bada

While the effectiveness evaluations are carried out every year, I get the feeling that the opinions of outside directors and outside corporate auditors are being properly addressed. During the effectiveness evaluation meeting only among outside directors and outside corporate auditors, we asked if we could be informed about what was actually discussed during internal Management Committee meetings, including the kinds of questions and counterviews that arose. The Company was quick to accommodate our request.

Discussion between Outside Directors and CFO



If I was to speak my mind about the current agenda items, Mitsui Chemicals has various acquisition deals and large-scale overseas projects, but they appear to be somewhat behind schedule under their original plans. I think the evaluation and analysis needs to be carried out thoroughly for the future.

Embracing challenges that surpass customer imagination

Kubo

In changing our point of view slightly, I'd like to hear your thoughts about the corporate culture at Mitsui Chemicals.

As outside directors, you all not only participate in the discussions at the meetings of the Board of Directors, but also visit our affiliated companies and business sites and engage in conversation with employees in the field. Given this, please tell us what you think the Company's strengths are, as well as the areas in which we can improve.

Bada

Looking at Mitsui Chemicals from the outside, my impression is that the Company is trustworthy, takes things seriously, and does things the proper way. The Company has a long history behind it, and when visiting regional business sites, I get the feeling that the local residents think of the Company as a leading enterprise in town and that the employees are working with pride to meet their expectations. I think this is a great asset for the Company.

On the other hand, considering that Japanese corporate culture can sometimes be intolerant of outsiders, I think the Company needs to pay more attention to diversity.

In fact, after seeing so many corporate scandals occurring in recent years, I think a company's foundation should be built on integrity. A company that causes problems has a problem with integrity, in my opinion. In this sense, I hold Mitsui Chemicals in high regard because I feel that all of its employees, from top to bottom, possess a great deal of sincerity.

Kuroda

We can also see that in the Company's operation of Board of Directors meetings. If issues are ever pointed out, the Company willingly resolves and rectifies them. I think this degree of sincerity is entrenched right throughout Mitsui Chemicals.

As for the Company's business operations, some major restructuring took place about a year after I assumed my role as an outside director and the Company shifted from being a product-oriented organization to one that is more customer-focused. As a result of these organizational reforms, I feel that the culture within the Company has been gradually changing to the extent that products are being produced in response to external requests and customer demand.

By melding together the ability to listen to its customers and a framework for honestly and seriously addressing problems, I think Mitsui Chemicals can become a corporation that satisfies customers' needs at a very high level in the future.

At the same time, this is rather my expectation and not a challenge, I hope the Company is going to develop astonishing and inspiring products that far exceed user expectations. To achieve this, I would like to see the Company go out on a limb on some occasions to take risks and embrace the challenge of doing something totally radical. I have heard that such challenging ideas are being floated in the new business development divisions, so I look forward to see what happens in the future.

Kubo

Director Yoshimaru, we are fortunate enough to welcome you as our outside director, and I'd like to hear what kind of expectations you have for the Mitsui Chemicals Group.

Yoshimaru

I had a fine impression of the Company before assuming my position in the sense that the Company possessing the infrastructure and materials is building the foundations of modern society, so to speak. At the same time, however, I understand that being in possession of infrastructure and materials makes business much more complex.

One shareholder made a remark with expectation during the General Meeting of Shareholders that the Company could





significantly transform its operations if it developed materials never seen before, such as plant-derived plastics.

Naturally, it is important that the Company presents various customer-driven applications, but on a much greater level, I expect and believe Mitsui Chemicals is a corporation that can develop materials to help solve the challenges of society.

Expecting Mitsui Chemicals to play a leading role in solving social issues

Kubo

The SDGs and ESG are often talked about when it comes to social challenges. No matter what the industry is, companies are now required to contribute to solving the challenges of society through their business activities.

As such, I think the chemical industry has enormous potential to contribute to solving social challenges with new technologies and products.

May I ask what you think about Mitsui Chemicals' current initiatives on ESG and the outlook for the future?

Kuroda

This is an interesting topic, even on a personal level. We can certainly expect new materials to be developed and utilized in various industries to greatly help solve environmental issues, for example, and this is without doubt a role that I think Mitsui Chemicals can fulfill.

Although the Company is engaged in a number of businesses related to solving social challenges, I'd like to see it pick up the pace of its initiatives even more. Mitsui Chemicals has developed its Blue Value™ and Rose Value™ products, both of which seek to solve social challenges. But on top of the environmental issues that the Blue Value™ products focus on, the Company has many businesses in which the Rose Value™ products can also make contributions, for example, by addressing the problem of food provisions and issues associated with an aging society.

Instead of taking action in response to what users and customers point out, I'd like to see all Company employees be more attentive to what issues need addressing and what social challenges need solving. By doing so, the Company can take the initiative ahead in formulating the necessary measures.

Bada

In recent years it has gradually become clear just how serious the various problems of microplastics have become.

Solving the problems of microplastics is exceedingly difficult because we are not really sure where the particles floating in the world's oceans have come from.

Simply cleaning up what is currently flowing into the seas without a clear view of the bigger picture of how to solve this issue probably isn't the answer. I think developing new products is one key role Mitsui Chemicals can play as a chemical company in order to find a breakthrough for this problem.

Furthermore, this problem cannot be solved by just one company. Given that President Tannowa currently serves as Chairman of the Japan Chemical Industry Association, I'd also like to ask that the industry works together with the government to formulate a policy in order to identify what needs to be done.

Up until now, most solution proposals for major global issues have come out of Europe, which include the SDGs, but for this issue, I hope that Japan and Mitsui Chemicals can lead the way in coming up with sophisticated solutions.

Yoshimaru

I have heard that Mitsui Chemicals will set up a new production site in the Netherlands so I think we will begin to see more of those activities in Europe where so many environmentally-friendly countries are located. I hope that Mitsui Chemicals can lead the way in the region with its initiatives.

Kubo

Thank you everyone for your opinions. As you have all alluded to, social challenges can be viewed as risks, but I also think they present major business opportunities if we can contribute our own solutions. For example, increasing the weighting of Blue Value™ and Rose Value™ products will lead to profit growth. Going forward, we intend to implement a wide range of initiatives like this.



Corporate Governance

The Mitsui Chemicals Group considers the enhancement of corporate governance to be one of our key management priorities in order to gain the trust of stakeholders and fulfill our corporate social responsibilities.

Basic Philosophy

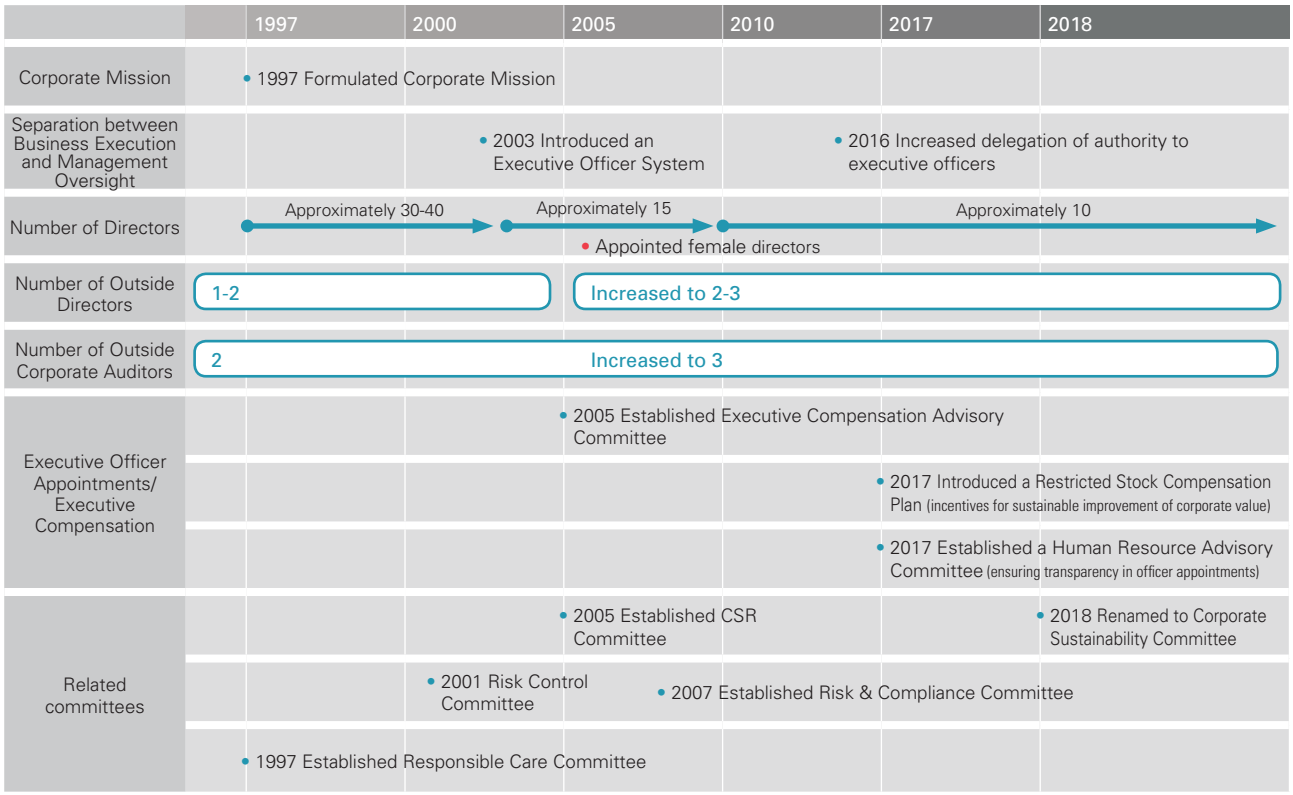
The Mitsui Chemicals Group is constantly engaged in business activities to realize its Corporate Vision, which comprises a Corporate Mission and a Corporate Target. We recognize that efforts to achieve effective corporate governance as part of that process will allow us to:
(1) maintain and strengthen trusting relationships with shareholders and various other stakeholders of the Group, and
(2) create a framework that can execute transparent, fair, timely, and decisive decision making.
Through these means, the Group can achieve sustainable growth and increased corporate value over the medium to long term.

Corporate Governance:
https://www.mitsuichem.com/en/corporate/governance.htm

Corporate Governance Guidelines
https://www.mitsuichem.com/pdf/en/corporate/governance/governance_guide_e.pdf

Corporate Governance Reforms

Since the founding of Mitsui Chemicals in 1997, we have continued to carry out reforms with the aim of realizing more effective corporate governance.



Policy on Cross-Shareholdings

The Company acquires and holds the shares of customers and suppliers in cases where we deem that such holdings can contribute to the medium- to long-term enhancement of our corporate value from the perspective of establishing and strengthening relationships and forming business partnerships with them. Meanwhile, the Company maintains a basic policy of promptly disposing or reducing the amount of shares it considers no longer worth holding, and on an annual basis, has the Board of Directors examine whether or not it would be appropriate to continue holding such shares in view of the respective business alliance, status of business transactions, capital costs, and other factors.

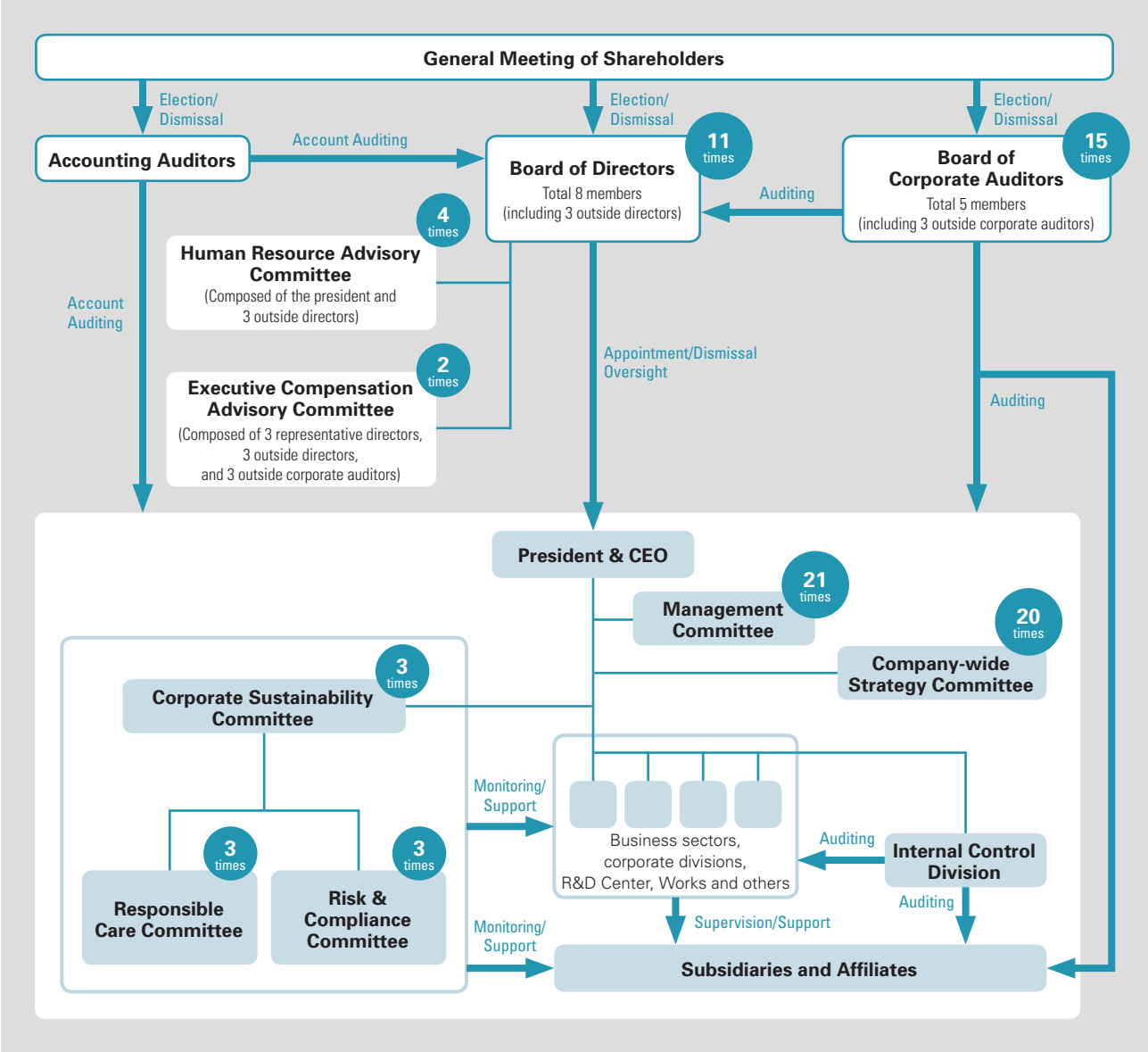
In the fiscal year under review, the examination was conducted at the December 2018 Board of Directors meeting. Moreover, the Company reviewed and sold some shares based on the results of the annual examinations.

Sales of cross-shareholdings in fiscal 2018

	No. of issues	Total sales value
Listed and non-listed shares	5	¥341 million

* Including some of the shares which have been sold.

Corporate Governance Framework



* ● Number of meetings held in fiscal 2018

General Meeting of Shareholders
Makes important decisions as the supreme decision-making body

Board of Directors
Makes decisions, receives reports, and discusses business strategies, business plans, and other important matters related to the management of the Company, and also oversees business execution

Board of Corporate Auditors
Establishes audit policies and plans, according to which corporate auditors conduct audits on the performance of duties by directors, etc.

Human Resource Advisory Committee
Reports to the Board of Directors regarding the candidates for directors, corporate auditors, and executive officers to ensure the suitability and transparency of officer appointments

Executive Compensation Advisory Committee
Reports to the Board of Directors regarding executive compensation to ensure the fairness of compensation levels and transparency of performance evaluations

Management Committee
Deliberates on matters requiring preliminary deliberations among those referred to the Board of Directors for deliberation, as well as important matters related to business execution

Company-wide Strategy Committee
Deliberates on strategies from a company-wide perspective with respect to management and operational issues

Corporate Governance

Election and dismissal of senior management and nomination of candidates for directors and corporate auditors

The Company has a Human Resource Advisory Committee that functions as an advisory body to the Board of Directors in order to ensure suitability and transparency in the election of directors and corporate auditors. The Committee deliberates the proposed list of candidates for directors and corporate auditors based on their election standards and reports the results to the Board of Directors. The Board of Directors decides upon the final list of candidates for directors and corporate auditors by giving the fullest possible consideration to the results report from the Human Resource Advisory Committee.

A proposal on candidates for corporate auditors is resolved by the Board of Directors after an agreement is obtained by the Board of Corporate Auditors. The Human Resource Advisory Committee is composed of the Company's president and three outside directors, all of whom meet the Company's independence standards.

Dismissal of the CEO or others in key positions

The Human Resource Advisory Committee deliberates on the dismissal of the CEO or others in key positions in cases where it is deemed that the individual has not adequately carried out his or her role in light of business performance or other factors, or where there has been a serious compliance violation.

If the Board of Directors receives findings from the Human Resource Advisory Committee constituting grounds for dismissal of a representative director, CEO, or others in key positions, the Board of Directors shall make a decision on dismissal after examining the results report.

Succession planning for the CEO and others in key positions

The Board of Directors shall continually and systematically oversees succession planning for the CEO and others in key positions in light of the Corporate Vision and long-term business plan and by consulting with the Human Resource Advisory Committee.

We have positioned our Key Talent Management* system as a framework for succession planning encompassing the senior management ranks. It clearly specifies the attributes required of management executives, fast tracks candidates for filling future senior management roles, and strategically trains candidates. Every year divisional and company-wide committees select candidates and contribute to their development by establishing customized training plans for each candidate, performing assessments, and implementing training. In addition, every year the Board of Directors receives reports on the status of such initiatives and provides appropriate oversight.

▶ See Human Resources Strategy on page 57.

Capabilities of the Board of Directors as a whole and views on diversity

As stipulated in the Articles of Incorporation, Mitsui Chemicals shall have no more than 12 directors. The appropriate number within that range is decided as necessary in consideration of the authorities delegated to executive officers and the need to streamline decision making in response to business expansion. In principle, the Company appoints multiple independent outside directors in order to reflect in our management policies the opinions of individuals from outside the Company that hold extensive experience and insight, such as corporate managers, academics, and legal professionals. This also increases the effectiveness of overseeing director operations.

The Company appoints executive directors in consideration of the specific characteristics of our businesses irrespective of gender, race, nationality, or other factors so that the executive directors as a whole possess balanced business experience in areas such as corporate planning, business operations, production and technology, research and development, accounting and finance, and general, personnel, and legal affairs.

Executive Compensation System

Basic policy

(1) Executive compensation needs to be commensurate with management delegation and conducive to the Group's growth and earnings improvement.
(2) Executive compensation system needs to be devised to reflect both corporate performance and the performance of the individual officer.
(3) Executive compensation for officers in higher positions more strongly reflects their contributions to medium- to long-term corporate growth and can deepen shared value with shareholders.
(4) Executive compensation fully ensures accountability to shareholders and other related parties and guarantees transparency.

Procedure

Executive compensation is determined by resolution of the Board of Directors following deliberations and reports by the Executive Compensation Advisory Committee.

Composition

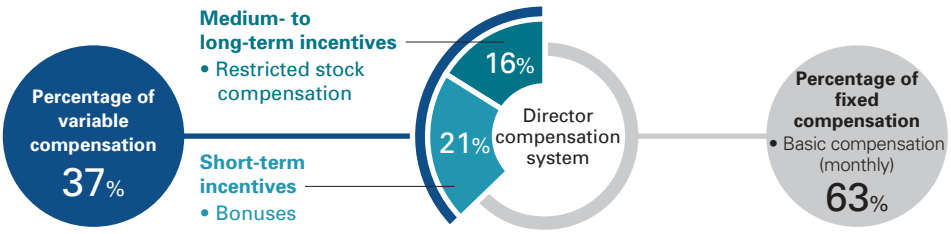
Compensation for the Company's directors (excluding outside directors) comprises basic compensation (fixed amount), bonuses, and restricted stock compensation.

Compensation for outside directors and corporate auditors is comprised solely of basic compensation (fixed amount), the level of which is established with reference to data from third-party surveys of compensation for corporate managers in Japan and other information.

Director compensation system

	Description	Compensation Type
Medium- to long-term incentives	Contribute to sustained improvement in medium- to long-term corporate value Promote greater shared value with shareholders	**Restricted stock compensation**
Short-term incentives	Paid out in line with business performance for the current fiscal year (mainly operating income)	**Bonuses**
Fixed compensation	Monthly fixed compensation	**Basic compensation**

Percentages of basic compensation and incentives for directors (excluding outside directors) in fiscal 2018



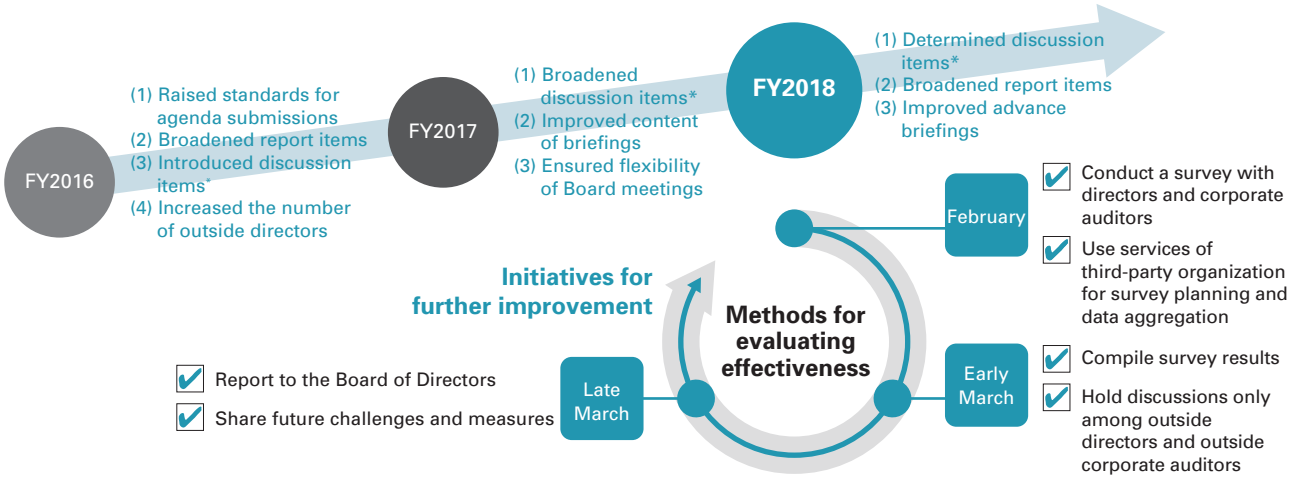
Total compensation for directors and corporate auditors in fiscal 2018

Classification	Total Compensation (Millions of yen)	Total Compensation by Type (Millions of yen)			Number of Persons Applicable
		Basic Compensation	Bonuses	Stock Compensation	
Members of the Board (excluding outside directors)	371	235	77	59	6
Tsutomu Tannowa	(117)	(70)	(27)	(20)	—
Corporate auditors (excluding outside auditors)	64	64	—	—	3
Outside directors and outside corporate auditors	75	75	—	—	6
Total	**509**	**373**	**77**	**59**	**15**

*1 The figures in the table above include amounts paid to one director and one corporate auditor who retired as of the close of the Annual General Meeting of Shareholders for the Company's 21st Business Term held on June 26, 2018, covering the period from April 1, 2018 through to the date of retirement.
*2 Figures in parentheses are included in the figures in the line above.

Evaluation of the Effectiveness of the Board of Directors

The Company's Board of Directors strives to improve its meetings by analyzing and evaluating the effectiveness of the Board as a whole every year using such methods as self-evaluations performed by directors and corporate auditors, and discussions only among outside directors and outside corporate auditors.



***Discussion items**

Initiatives implemented since fiscal 2016 with the aim of strengthening management oversight functions by discussing medium- to long-term business strategies and large-scale M&As from an intermediate stage and providing advice to executive directors.

Measures taken in fiscal 2018

(1) Determining discussion items

Determined the specific approach for selecting topics for discussion items in order for the Board of Directors to engage in preliminary discussions on matters such as medium- to long-term business strategies and large-scale M&As.

(2) Broadening report items

Added dialogue with institutional investors as a report item.

(3) Improving advance briefings

Improved advance briefings to outside directors and outside corporate auditors, including the expansion and improvement of materials provided in advance and provision of feedback to their comments and questions raised at the advance briefings sessions.

Evaluation results and future initiatives

The director and corporate auditor self-evaluation scores in fiscal 2018 exceeded those of the previous fiscal year overall. The Company has also confirmed that the Board of Directors has been improved and invigorated by implementing measures to enhance its oversight functions and concludes that its effectiveness is fully sufficient, as was the case in the previous fiscal year.

Future challenges

(1) Further broaden discussions on medium- to long-term business strategies (review the Board's standards for agenda submissions and meeting frequency, etc.)
(2) Enhance discussions on capital costs
(3) Further improve advance briefings

The Company strives to review and implement necessary measures as appropriate to enhance the oversight functions of the Board of Directors in light of the results of the annual effectiveness evaluations.

Initiatives for further improvement

Opinions of outside directors and outside corporate auditors

- The medium- to long-term strategies and general direction of the Company and its businesses warrant further discussion. Having a broad understanding of the strategies and direction in advance can be useful in discussing individual matters.
- Even though capital costs are discussed internally, they warrant further discussion at Board of Directors meetings.
- Advance briefings are not necessarily needed for all agenda items. Advance briefings, however, need to be given a bit earlier for important items even if internal discussions on such items have not yet been finalized.

Risk and Compliance Management

In order for a company to earn the trust of its stakeholders and fulfill its corporate social responsibility, it is essential that a fully developed and reliably operated structure for risk management and compliance promotion is in place. The Mitsui Chemicals Group is working to further enhance those initiatives, which serve as the foundation of our corporate activities.

Risk and Compliance Management
https://www.mitsuichem.com/en/sustainability/corporate/compliance/index.htm

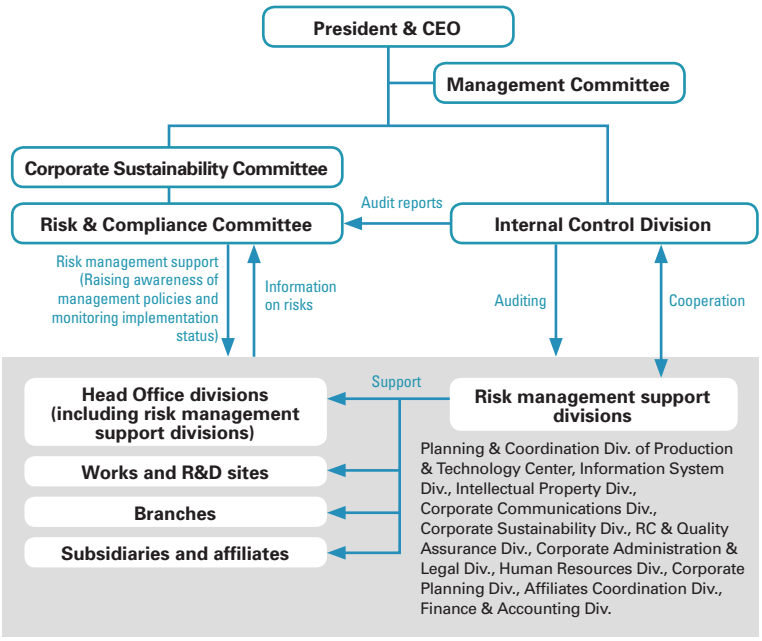
Risk Management System

In order to identify risks early and prevent them from materializing, we have introduced the Mitsui Chemicals Group Risk Management System. Under this System, in the annual budgeting of Group companies and divisions, we identify key risks, conduct analyses of the risk conditions, and take measures accordingly.

In addition, by using compliance checklists to monitor the progress of these measures, we are working to steadily implement PDCA for risk management, and prevent risks from materializing.

This System functions as part of our internal control system, and the operational status of our internal control system is reported to the Board of Directors.

Structure of Group Risk Management System



Compliance Promotion

We placed compliance with laws and regulations as the first of the Mitsui Chemicals Group Action Guidelines formulated in February 2006, declaring our intent to give priority to compliance with laws and regulations over the pursuit of any profit. The Group considers it important not only to build the frameworks of risk management system, such as the Risk & Compliance Committee and the Risk Hotline, but also for each individual employee who drives forward the framework to strictly adhere to all laws and regulations.

With this in mind, the Group undertakes four initiatives in an effort to promote compliance. In addition to having prepared a basic Compliance Guidebook, for the purpose of raising awareness, we conduct compliance awareness education and training, as well as workplace discussions covering case studies of violations of laws and regulations. From a skills and knowledge perspective, we also conduct legal and regulatory compliance training.

Declaration on Bribery Prevention

Amid the global expansion of our business, which grows larger each year, and in response to the international concern over bribery that has grown in recent years, we have established a Group policy that clarifies our basic stance concerning bribery prevention.

We comply with all regulations regarding the prevention of bribery in countries and regions where Group companies have operations, including the Unfair Competition Prevention Act in Japan, the Foreign Corrupt Practices Act in the United States, and the Bribery Act in the United Kingdom. When we are pressed to choose between profit and compliance with laws and regulations, we will always give priority to compliance, without any hesitation.

Conducting compliance training in the Asia Pacific Region

Since fiscal 2015, Mitsui Chemicals Asia Pacific, Ltd. (MCAP), which is positioned as a regional corporate office for the Asian region, has taken the lead in making compliance guidebooks, and actively conducting training for anti-monopoly laws and anti-corruption in the Asia Pacific region.

In fiscal 2018, we conducted participatory discussion training to raise compliance awareness, through seminars held in Singapore, Thailand, Malaysia, and India on bribery rules and anti-monopoly laws, as well as examples of compliance violations around the world. We plan to continue conducting this training in the future.



Responsible Care

Responsible Care (RC) is a voluntary initiative of the chemical industry. Its aim is to contribute to improving quality of life (QOL) and realizing a sustainable society by minimizing the impact of business operations on the environment and society while also providing innovative technologies and solutions that address social challenges. The Mitsui Chemicals Group has established the Responsible Care Policy below. We carry out RC activities in line with this policy and aim to live up to the expectations of and trust placed in us by local communities and society, and, through our businesses, contribute to the sustainable development of society.

Responsible Care®
OUR COMMITMENT TO SUSTAINABILITY

Responsible Care:
https://www.mitsuichem.com/en/sustainability/rc/

Responsible Care Policy

Based on its Corporate Mission and Action Guidelines, the Mitsui Chemicals Group acknowledges that its business challenge is not only to comply with laws and regulations of the countries in which it does business, but also to continuously contribute to the improvement of safety, health, the environment, and quality, for the sustainable development of society. We will expand our business focus while continuing to improve and maintain good communication with all our stakeholders and business partners.

Responsible Care Policy and explanations of provisions

Responsible Care Policy	Explanation
We pledge that safety is our top priority and will focus on achieving zero accidents and occupational injuries.	Determined to ensure that the lessons learned from the 2012 explosion and fire do not fade, we implement fundamental safety initiatives. To foster a culture of safety and ensure safe production activities—essential prerequisites for a company's survival—we strive to improve and pass on technical know-how, consistently engage in safety activities, and aim to ensure safety throughout the entire supply chain.
We will assess the risks to people and the environment from our products throughout their lifecycles, while working to ensure the health and safety of all persons and to reduce the environmental impact of those products.	Through assessments of risks and the proper management of chemical substances throughout the entire product life cycle (from development to production, distribution, use, final consumption, and disposal), we aim to minimize the impact of chemical substances on people and the environment, ensure the health of those that interact with the product, and mitigate environmental impacts.
We will contribute to improve quality of life and protect the environment through our business activities by developing beneficial technologies and products.	By solving various social challenges through our business activities such as the development of our Blue Value™ and Rose Value™ products, we aim to realize a cohesive society in harmony with the environment, as well as health and well-being in an aging society.
We will provide high-quality products and services that satisfy the needs of our customers and respond to the trust that they place in us.	We continue to create new value by constantly thinking about what society and our customers need. Taking a two-pronged approach to quality management based on quality control and quality assurance, we supply products and services that our customers can be satisfied with. We aim to live up to the trust placed in us by our customers by guaranteeing product quality from the customer's perspective in order to resolve their issues.
We will actively promote the well-being of all our employees.	We believe that promoting the health of our employees is in itself a contribution to society and we take proactive steps to help every employee of the Group improve their health. Moreover, mental health is just as important as physical health. We therefore help our employees in their voluntary efforts to ensure good health and promote the creation of a lively work environment.

Initiatives in Fiscal 2018

Completion of risk assessments on all products

In order to contribute to the achievement of the WSSD 2020 goals and guided by our approach to product stewardship, the Mitsui Chemicals Group has carried out a reassessment of risks for all our products.

We first performed a qualitative risk assessment on all our products and then a quantitative assessment on products for which results showed risk concerns. We started this risk assessment process in fiscal 2016 with the goal of completing it in fiscal 2020, but we managed to finish it ahead of schedule in fiscal 2018.

Going forward, we will endeavor to disclose risk information to our customers as part of our commitment to ensuring safety throughout the entire supply chain, as set out in our 2025 Long-Term Business Plan.

Risk assessments as part of product stewardship

2025 Long-Term Business Plan Target (Environment and Society)		KPIs	FY2018 Results
Pursue safety, high quality, and fairness across the entire supply chain	Product Stewardship (sound management of chemicals) Implement risk management across the supply chain through the risk assessment of products and provision of information to customers and other stakeholders	• Product risk assessments: 99% or more (achieved in 2020)	100% (Completion of assessments on all products)
		• Provision of product safety data: 100% (ongoing)	100%

Product risk assessment flow



External recognition

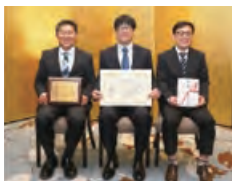
First Japanese company to win AICM Chairman's Award



In recognition of our ongoing Responsible Care initiatives in China, Mitsui Chemicals was the winner of the RC Chairman's Award from the Chinese Association of International Chemical Manufacturers (AICM). In 2017, we also scooped the RC Merit Award for the second year running after taking it home in 2015. Underpinned by our RC activities over a period of more than five years and our contributions to the Chinese chemical industry, we are the first Japanese company to receive the Chairman's Award.

This award recognized our efforts to strengthen hazard predictions and improve working conditions at our Chinese affiliates, the implementation of safety initiatives, our continuous reporting of safety and environmental data which serve as indicators of our performance in these endeavors, and the hosting of laboratory classes for local elementary schools.

Mitsui Chemicals Tohcello, Inc. and Mitsui Chemicals Agro, Inc. win JCIA Safety Award





Based on our management policy of making safety the top priority, Mitsui Chemicals is expanding its safety initiatives to affiliated companies within and outside Japan. Both Mitsui Chemicals Tohcello, Inc. (pictured left) and Mitsui Chemicals Agro, Inc. (pictured right) were recognized for maintaining a record of zero accidents as a result of improving safety awareness and implementing safety initiatives that all employees engaged in manufacturing and R&D take part in.

Safety & Prevention

Top management's strong commitment to safety and prevention



On occasions such as the Company's annual Safety Day* and Japan's National Safety Week, the president reiterates to all Mitsui Chemicals Group employees our management policy of making safety the top priority. The management team, including the executive vice president, senior managing executive officers, and Center Executive of the Production & Technology Center, also visits the Group's domestic and overseas production bases to actively engage in supporting and dialogue with employees about safety.

*To ensure that the memories of the explosion and fire that occurred on April 22, 2012 at the resorcinol production facility at the Iwakuni-Ohtake Works are never forgotten, April 22 of every year has been designated as Safety Day. On this day every year, the president leads a number of safety-related initiatives across the Company.

Responsible Care

Fundamental safety measures

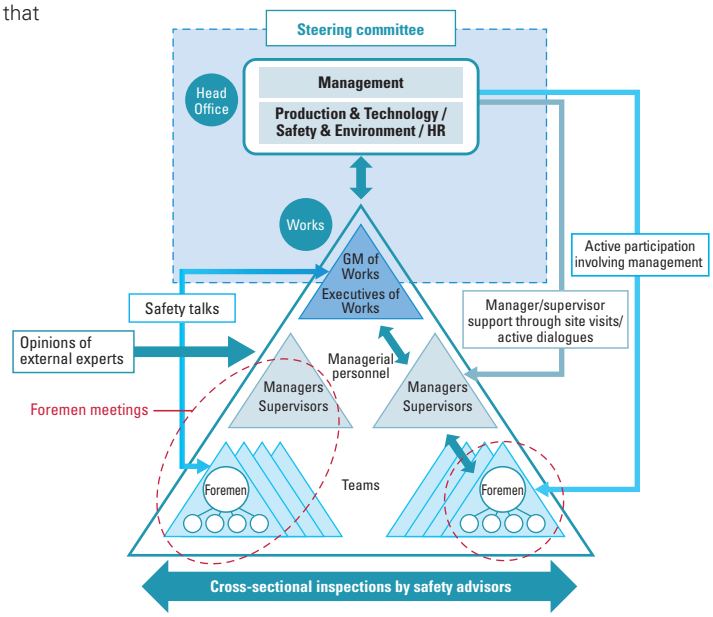
We take very seriously the explosion and fire that occurred in 2012 at our resorcinol production facility at the Iwakuni-Ohtake Works. Six years have now passed since we started to implement a series of fundamental safety measures to thoroughly review and improve the problem areas relevant to ensuring safety and prevention on a company-wide basis. The various measures that we developed through much deliberation have now been incorporated into daily activities and form daily tasks in ongoing activities that also entail a PDCA cycle. We will continue to advance these fundamental safety measures in an effort to further raise our level of safety.

Key points of fundamental safety measures

- The steering committee*1, which reports directly to the president, deliberates Group-wide issues and sets the direction for activities
- Management spearheads the participation in safety initiatives through active dialogue owing to greater opportunities for Head Office personnel to visit plants
- Issues pointed out by external experts and other third parties are reflected in plant operations
- General managers of Works give safety talks, while cross-sectional safety inspections are performed by safety advisors*2
- Meetings among foremen organized by managers help to enhance communication

*1 To make swift progress of fundamental safety measures, the members shown in the diagram meet to discuss Group-wide issues and set the direction of activities.

*2 Veteran employees involved in daily activities and improving the overall level of safety at plants by exchanging opinions with workers.



In fiscal 2018, as a response to the fire that broke out at the Mobara Branch Factory in July 2017, we overhauled our systems through which safety technology is passed down and focused our efforts on reviewing our technical assessment systems. In connection with these changes, we also made sure to provide in-depth training to our line managers. Meanwhile, because a chimney fire occurred at the Osaka Works in June 2018 when work was being undertaken during periodic maintenance, we are looking at how we can strengthen our safeguards for construction management too.

Safety culture assessment

The Mitsui Chemicals Group performs safety culture assessments in collaboration with Niigata University and the Keio University Graduate School of System Design and Management. A safety culture assessment entails each person answering 110 questions comprising the following eight axis models of safety culture: governance; commitment; communication; motivation; resource management; work management; learning; and awareness. This assessment enables us to visualize the strengths and weaknesses of the workplace. It also serves as a useful tool for improving communication through repeated discussions in the workplace about the various hierarchical gaps that might exist.

In fiscal 2018 we performed safety culture assessments for the second time at Iwakuni-Ohtake Works, Nagoya Works, and Ichihara Works. It had been roughly four years since the last assessment and we were able to find out the effects from the workplace revitalization activities over that time as well as the impact of changes in the environment surrounding the workplace. Four of our affiliated companies also underwent an assessment for the first time.

We believe this assessment to be an effective method for triggering self-recognition of workplace safety culture and we will continue to make active use of it in the future.

Worksite implementation

Manufacturing Department-2, Iwakuni-Ohtake Works Assessment dates: **April 2014 and August 2018**

Better communication improves workplace culture and further increases motivation

The results of the first assessment in 2014 were analyzed and an explanation/discussion session was organized for all department employees to attend. Poor safety awareness and a lack of communication were originally identified as weaknesses. As measures for improvement, safety talks with managers were initiated and career plans depicting one's own role and future vision were formulated, which have led to the improvement of workplace culture and gradually boosted safety awareness among employees. The department will aim to further motivate its workers in the future.

Saitama Office, Mitsui Chemicals Industrial Products Assessment date: **July 2018**

Management-led diligent approach to safety

A total of 59 employees, including contractors, underwent a safety culture assessment for the first time. Scores for the eight axis models differed considerably depending on the person's department. A follow-up on the assessment results was added to the list of key issues for fiscal 2019 and various measures will be implemented up ahead, including workflow visualization and study groups. The Saitama Office is endeavoring to improve safety awareness by talking to each and every employee during daily patrols.

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11-Year Overview of Major Financial and Non-Financial Indicators

For the Fiscal Year		2008	2009	2010	2011
Operating Results (for the year)					
Net sales		¥1,487,615	¥1,207,735	¥1,391,713	¥1,454,024
Operating income (loss)		(45,493)	(9,461)	40,548	21,564
Profit (loss) attributable to owners of parent		(95,237)	(28,010)	24,854	(1,007)
Reference: Ordinary income (loss)		(50,768)	(13,132)	38,851	22,884
Net cash provided by operating activities		54,882	70,173	73,196	43,302
Net cash used in investing activities		(76,253)	(42,913)	(43,204)	(42,452)
Free cash flows		(21,371)	27,260	29,992	850
Financial Position (at year-end)					
Total current assets		¥ 529,606	¥ 604,556	¥ 665,976	¥ 661,311
Property, plant and equipment		522,641	498,183	467,735	430,629
Total intangible assets, investments and other assets		136,692	135,347	161,916	164,363
Total assets		1,188,939	1,238,086	1,295,627	1,256,303
Total current liabilities		377,858	386,203	442,298	451,507
Total non-current liabilities		412,950	432,879	422,228	389,025
Total shareholders' equity & total accumulated other comprehensive income (loss)		349,908	377,283	383,740	367,436
Interest-bearing debt		535,391	494,219	480,701	464,773
Other					
Depreciation and amortization		¥ 81,374	¥ 74,878	¥ 69,237	¥ 62,749
Capital expenditures		81,041	49,054	45,137	44,814
R&D expenses		40,628	38,131	36,166	33,176
Per Share Data[*1]					
Net income (loss) per share (basic)		¥(627.30)	¥(165.20)	¥124.00	¥(5.05)
Cash dividends per share		45.00	15.00	30.00	30.00
Ratios					
Return (operating income (loss)) on sales		(3.06)	(0.78)	2.91	1.48
Return (net income (loss)) on equity		—	—	6.53	—
Return (operating income (loss)) on assets		—	—	3.20	1.69
Net D/E ratio		1.39	1.11	1.04	1.12
Social Data					
Employees	Consolidated	12,964	12,892	12,782	12,868
	Non-consolidated	8,557	8,297	7,878	7,633
Percentage of women	Non-consolidated	10.4	10.8	11.2	11.4
Environmental Data[*2]					
SOI[*3] frequency[*4]	Consolidated[*5]	—	—	0.28	0.22
GHG emissions (Scope1, 2)[*6]	Consolidated[*7]	—	571	583	561
Energy consumption	Consolidated[*8]	—	99	103	99
Industrial waste	Landfill disposal volume (Consolidated)[*5]	30.1	18.8	18.1	1.1
	Landfill rate (Consolidated)[*5]	8.7	6.1	5.4	0.4

*1 On October 1, 2017, Mitsui Chemicals conducted a 5-to-1 share consolidation. Net income (loss) per share (basic) is calculated as if the consolidation had been conducted at the start of fiscal 2016. The figures listed for cash dividends per share have also been retroactively adjusted to account for the impact of the consolidation.

*2 Due to changes in aggregation methods and legal revisions, only data that complies with such methods and laws is presented.

*3 "Significant Occupational Injuries (SOIs)" refer to occupational injuries that resulted in absence from work or death. SOIs also include lighter occupational injuries that, due to the potential danger in the cause of the injury, could have led to absence from work or death. SOIs do not include those injuries that are not directly related to operations.

*4 SOI frequency: The number of deaths or SOIs per million hours worked.

*5 Production sites operated by Mitsui Chemicals, Inc. and domestic and overseas consolidated subsidiaries and affiliated companies eligible for Responsible Care support.

2012	2013	2014	2015	2016	2017	**2018**	**2018**	
						(Millions of yen)	(Thousands of U.S. dollars)	
¥1,406,220	¥1,566,046	¥1,550,076	¥1,343,898	¥1,212,282	¥1,328,526	**¥1,482,909**	**$13,360,744**	
4,290	24,899	42,040	70,926	102,149	103,491	**93,427**	**841,761**	
(8,149)	(25,138)	17,261	22,963	64,839	71,585	**76,115**	**685,783**	
9,206	22,522	44,411	63,183	97,196	110,205	**102,972**	**927,759**	
18,512	43,476	58,287	145,913	100,440	82,660	**109,492**	**986,503**	
(58,136)	(89,781)	(35,036)	(36,365)	(47,395)	(75,041)	**(64,255)**	**(578,926)**	
(39,624)	(46,305)	23,251	109,548	53,045	7,619	**45,237**	**407,577**	
						(Millions of yen)	(Thousands of U.S. dollars)	
¥ 715,396	¥ 777,015	¥ 731,708	¥ 628,210	¥ 678,938	¥ 731,326	**¥ 786,677**	**$ 7,087,819**	
446,637	425,840	433,629	413,402	409,429	432,908	**443,063**	**3,991,918**	
175,962	229,307	246,453	217,336	237,158	267,075	**271,334**	**2,444,671**	
1,337,995	1,432,162	1,411,790	1,258,948	1,325,525	1,431,309	**1,501,074**	**13,524,408**	
493,908	507,056	448,499	364,259	392,783	443,105	**458,758**	**4,133,327**	
415,173	515,459	491,992	451,452	418,107	400,982	**410,577**	**3,699,225**	
376,779	352,843	406,235	381,971	449,692	511,586	**551,915**	**4,972,655**	
507,183	581,260	548,713	472,986	439,868	463,658	**485,043**	**4,370,150**	
						(Millions of yen)	(Thousands of U.S. dollars)	
¥ 43,864	¥ 48,143	¥ 48,251	¥ 48,640	¥ 44,057	¥ 45,654	**¥ 49,504**	**$ 446,022**	
56,649	113,200	47,531	43,405	45,383	81,248	**61,924**	**557,924**	
31,997	33,569	32,473	31,493	30,777	33,377	**35,796**	**322,516**	
						(Yen)	(U.S. dollars)	
¥(40.70)	¥(125.50)	¥86.20	¥114.75	¥324.05	¥358.38	**¥385.60**	**$3.47**	
30.00	15.00	25.00	40.00	70.00	90.00	**100.00**	**0.90**	
0.31	1.59	2.71	5.28	8.43	7.79	**6.30**		%
—	—	4.55	5.83	15.59	14.89	**14.31**		%
0.33	1.80	2.96	5.31	7.90	7.51	**6.37**		%
1.22	1.44	1.22	1.03	0.79	0.75	**0.68**		Times
12,846	14,271	14,363	13,447	13,423	17,277	**17,743**		Persons
7,266	7,129	6,931	6,733	6,516	6,541	**6,670**		Persons
11.7	11.9	11.9	12.0	12.4	12.6	**12.6**		%
0.49	0.24	0.18	0.30	0.23	0.24	**0.33**		
546	520	501	5,780	5,730	5,580	**5,220**		Thousand tons
94	89	86	95	97	95	**93**		PJ
1.2	0.6	0.7	1.0	0.9	0.7	**0.7**		Thousand tons
0.4	0.2	0.2	0.4	0.4	0.3	**0.3**		%

*6 We had disclosed our GHG emissions as a combination of both Scope 1 and Scope2 less the amount of electricity and steam sold up to 2014, but after 2015 we have been disclosing the sum of Scope 1 and Scope 2.

*7 GHG emissions for overseas consolidated subsidiaries are calculated in accordance with Japan's Law Concerning the Promotion of Measures to Cope with Global Warming based on energy consumption figures. (CO_2 emission factors from electricity generation were retroactively changed to the International Energy Agency (IEA) emission factors for each country.) Data reflect the total of domestic and overseas consolidated subsidiaries.

*8 Mitsui Chemicals, Inc. and domestic and overseas consolidated subsidiaries.

Management's Discussion and Analysis

Overview

In the fiscal period under review (the twelve-month period from April 1, 2018 to March 31, 2019, hereinafter "fiscal 2018"), the economy of the United States enjoyed constant recovery. On the other hand, the state of trade policy in the United States, the Chinese economy's deceleration and geopolitical risks remained unsettled, and careful attention was paid to fluctuations in the global economy.

In Japan, although attention was paid to the impact of successive natural disasters on the economy, it continued to gradually recover amid steady corporate profit and improvements in the employment and incomes.

In the domestic chemical industry, despite fluctuations in crude oil prices, naphtha crackers operated at a consistently high capacity on the back of firm domestic demand.

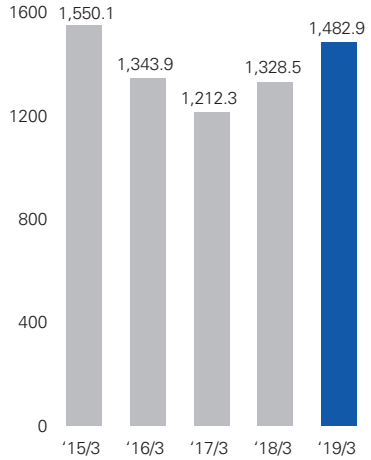
Under these circumstances, based on the 2025 Long-Term Business Plan, the Mitsui Chemicals Group (hereafter "the Group") worked for business expansion and growth in the three business domains; Mobility, Health Care, and Food & Packaging, while also creating and developing Next Generation Business and further enhancing competitiveness in the area of Basic Materials.

In Mobility, the Group responded to the expansion of new needs, namely, light-weighted, electric-powered and more comfortable products in the automotive and ICT industries. The Group is constructing its first production base in Europe for polypropylene compounds used in automotive bumpers. In addition, the Group decided to establish a new plant for LUCANT™, which contributes to the higher functionality of lubricants, in order to greatly boost production. Also, the Group worked to enhance its ability to offer customer-driven solutions with ARRK Corporation, which is a global development support company that was made into a consolidated subsidiary in January 2018.

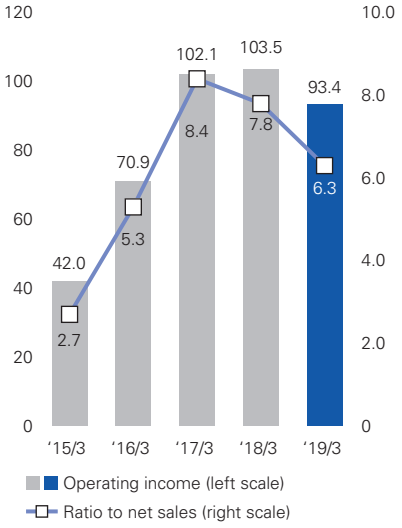
In Health Care, in line with the declining birthrates and aging populations of advanced countries and the growing economies in emerging markets, health consciousness is rising and individual wants and needs are diversifying. Sales of our ophthalmic lens materials, which boast the largest share of the global market, remained healthy. In addition, the Group accelerated the rollout of the next-generation eyewear TouchFocus™, which enables the wearer to easily switch between near- and far-sightedness at a touch. In nonwoven fabrics, the Group started operations at two expanded domestic plants to meet demand for premium disposable diapers, which are gaining popularity in Asia. In addition, the Group focused on expanding sales of the high-performance nonwoven fabric AIRYFA™, which is both soft and strong.

In Food & Packaging, food security is becoming a major social issue as the global population continues to grow. With standards of living in Asia rising, the packaging field is seeing growing needs for more highly functional products with a smaller environmental footprint. In performance films and sheets, the Group deftly responded to robust demand by optimizing and expanding its production system. In addition, new plant construction proceeded in Taiwan, a major source of demand, for facilities to produce ICROS™ Tape, which commands the largest share of the global market for protective tape used in semiconductor manufacturing processes. In agrochemicals, the Group accelerated the development of new products and continued building its business base in regions with high demand, especially Asia, thereby accelerating the global expansion of the agrochemical business.

Net sales
(Billions of yen)



Operating income/Ratio to net sales
(Billions of yen, %)



In Basic Materials, which is centered on petrochemicals and basic chemicals, the Group provides materials to various manufacturing fields, including automobiles, residences, consumer electronics, infrastructure and packaging. In fiscal 2018, demand remained firm despite the effects of fluctuations in naphtha prices. Osaka Works' utility plant, where a fire occurred in June 2018, resumed operations in August following a swift recovery. The Group will continue striving to prevent a recurrence and to ensure safe and stable operations. In addition, the Group will continue working to establish a stable earnings base resilient to economic fluctuations mainly by expanding its lineup of differentiated products and maintaining a high utilization rate through local production for local consumption.

Operating Results

Net Sales

Net Sales increased 154.4 billion yen, or 11.6%, compared with the previous fiscal year to 1,482.9 billion yen. This was mainly attributable to healthy sales and increase in sales prices due to the rise in naphtha and other raw materials and fuel prices.

Net sales overseas were 672.1 billion yen, an increase of 1.0% compared with the previous fiscal year to 45.3% in the total net sales.

Operating Income

Operating income was 93.4 billion yen, a decrease of 10.1 billion yen or 9.7% year on year. This result was due to increase of raw material prices and fixed costs, although sales were healthy.

Ordinary Income

Ordinary income was 103.0 billion yen, decreased 7.2 billion yen or 6.6% year on year. This result was due to decrease of operating income, in spite of increase of share of profit of entities accounted for using equity method.

Extraordinary Income and Losses

Extraordinary income and losses improved 18.3 billion yen year on year to 2.3 billion yen profit. This result was due to a decrease of impairment loss and because insurance income was received, in spite of a loss on fire and increase of loss on sales and disposal of non-current assets.

As a result of the aforementioned factors, profit before income taxes amounted to 105.3 billion yen, an increase of 11.1 billion yen, or 11.8% year on year.

Profit Attributable to Owners of Parent

Profit attributable to owners of parent after accounting for income taxes and non-controlling interests was 76.1 billion yen, an increase of 4.5 billion yen, or 6.3% compared with the previous fiscal year. Earnings per share for the period were 385.60 yen.

Segment Information

Business Segment Results

The status of each segment during fiscal 2018 is as follows.

Mobility

Net sales increased 64.4 billion yen compared with the previous fiscal year to 395.4 billion yen and comprised 27% of total sales. Operating income increased 0.4 billion yen to 42.7 billion yen year on year. The increase in income was due to expansion of sales volume in spite of increase in raw material prices and fixed costs.

In elastomers, which are primarily used in automotive components and as resin modifiers, the Group was affected by increase of raw material prices although the Group was able to meet healthy demand.

In performance compounds, the Group was able to satisfy healthy demand especially in Asia and Europe.

In performance polymers, which are primarily used in information communication technology (ICT)-related products, sales remained steady.

In overseas polypropylene compound businesses, the Group was able to meet increasing production volume of the automobile industry mainly in South East Asia.

The Group absorbed the newly consolidated subsidiaries of ARRK Group in solution business as of January 2018.

	Millions of yen		
Mobility	**2019/3**	2018/3	Change (%)
Net sales	**¥395,365**	¥331,038	19.4
Operating income (loss)	**42,736**	42,296	1.0
Total assets	**348,824**	316,313	10.3
Depreciation and amortization	**12,582**	10,264	22.6
Capital expenditures	**17,256**	32,179	(46.4)

Health Care

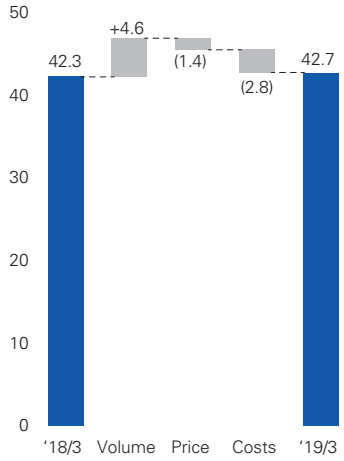
Net sales increased 7.5 billion yen year on year to 146.6 billion yen and comprised 10% of total sales. Operating income increased 2.8 billion yen to 13.6 billion yen year on year, mainly due to firm sales overall. In vision care materials, sales of ophthalmic lens materials were firm.

In nonwoven fabrics, sales were affected by decreasing export of disposable diapers from Japan.

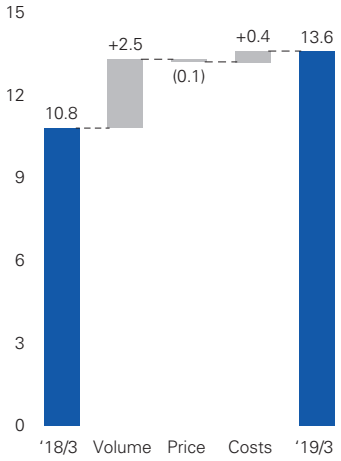
In dental materials, sales were stable.

	Millions of yen		
Health Care	**2019/3**	2018/3	Change (%)
Net sales	**¥146,598**	¥139,120	5.4
Operating income (loss)	**13,622**	10,830	25.8
Total assets	**195,713**	200,684	(2.5)
Depreciation and amortization	**9,412**	9,501	(0.1)
Capital expenditures	**6,579**	16,018	(58.9)

Mobility
(Change in operating income)
(Billions of yen)



Health Care
(Change in operating income)
(Billions of yen)



Food & Packaging

Net sales increased 3.6 billion yen compared with the previous fiscal year to 199.4 billion yen and comprised 13% of total sales. On the other hand, operating income decreased 2.1 billion yen to 17.8 billion yen year on year, due to decrease of sales volume and increase of raw material prices and fixed costs.

In coatings & engineering materials, profit was impacted by an increase in raw material prices.

In performance films and sheets, profit was affected by decrease of sales volume and increase of raw material prices.

In agrochemicals, sales were firm.

	Millions of yen		
Food & Packaging	**2019/3**	2018/3	Change (%)
Net sales	**¥199,435**	¥195,840	1.8
Operating income (loss)	**17,791**	19,924	(10.7)
Total assets	**232,533**	221,550	5.0
Depreciation and amortization	**7,496**	6,961	7.7
Capital expenditures	**15,019**	9,508	58.0

Basic Materials

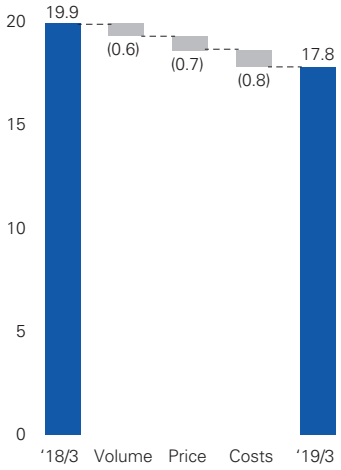
Net sales increased 78.8 billion yen compared with the previous fiscal year to 716.5 billion yen and accounted for 48% of total sales. On the other hand, operating income decreased 11.1 billion yen year on year, to 27.8 billion yen. This was mainly attributable to the effect of stock revaluation caused by fluctuations in naphtha prices in spite of firm domestic demand.

Naphtha cracker operating rate were lower than the previous fiscal year due to a fire at Osaka Works' utility plant, but kept at high level overall. Performances of polyethylene and polypropylene were firm, backed by domestic demand.

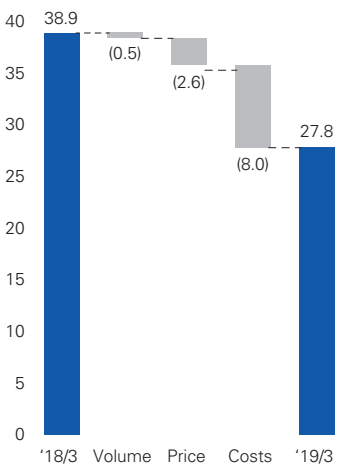
In phenols, demand was firm and the overseas market environment was at higher level than the previous fiscal year.

	Millions of yen		
Basic Materials	**2019/3**	2018/3	Change (%)
Net sales	**¥716,524**	¥637,700	12.4
Operating income (loss)	**27,776**	38,903	(28.6)
Total assets	**598,707**	606,896	(1.3)
Depreciation and amortization	**14,826**	14,467	2.5
Capital expenditures	**18,453**	15,752	17.1

Food & Packaging
(Change in operating income)



Basic Materials
(Change in operating income)



Others

Net sales increased 0.1 billion yen to 25.0 billion yen, comprised 2% of total sales. On the other hand, operating loss was 1.4 billion yen, increase of 0.5 billion yen compared to the previous year.

	Millions of yen		
Others	**2019/3**	2018/3	Change (%)
Net sales	**¥24,987**	¥24,828	0.6
Operating income (loss)	**(1,375)**	(906)	-
Total assets	**55,129**	50,052	10.1
Depreciation and amortization	**3,857**	3,118	23.7
Capital expenditures	**3,870**	6,110	(36.7)

Net Sales

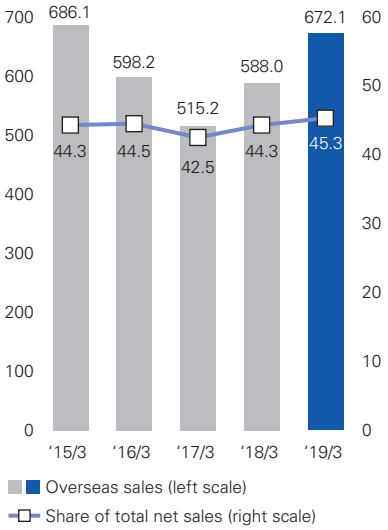
	Billions of yen				
			Increase (Decrease)		
	2019/3	2018/3	Total	Volume contribution	Price contribution
Mobility	**¥ 395.4**	¥ 331.0	¥ 64.4	¥49.0	¥15.4
Healthcare	**146.6**	139.1	7.5	5.9	1.6
Food & Packaging	**199.4**	195.8	3.6	(2.7)	6.3
Basic Materials	**716.5**	637.7	78.8	18.1	60.7
Others	**25.0**	24.9	0.1	—	0.1
Total	**¥1482.9**	¥1328.5	¥ 154.4	¥70.3	¥84.1

Operating Income (Loss)

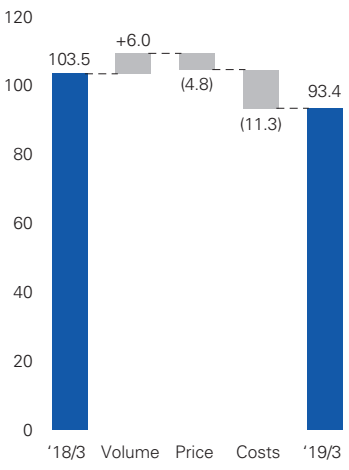
	Billions of yen					
			Increase (Decrease)			
	2019/3	2018/3	Total	Volume contribution	Price*	Fixed and other cost differential
Mobility	**¥42.7**	¥ 42.3	¥ 0.4	¥4.6	¥(1.4)	¥ (2.8)
Healthcare	**13.6**	10.8	2.8	2.5	(0.1)	0.4
Food & Packaging	**17.8**	19.9	(2.1)	(0.6)	(0.7)	(0.8)
Basic Materials	**27.8**	38.9	(11.1)	(0.5)	(2.6)	(8.0)
Others	**(1.4)**	(0.9)	(0.5)	—	—	(0.5)
Adjustments	**(7.1)**	(7.5)	0.4	—	—	0.4
Total	**¥93.4**	¥103.5	¥(10.1)	¥6.0	¥(4.8)	¥(11.3)

*Price = Price contribution + Variable cost differential

Overseas sales/Share of total net sales
(Billions of yen, %)



Operating income
(Billions of yen)



Financial Position

Assets

Total assets at the end of fiscal year stood at 1,501.1 billion yen, an increase of 69.8 billion yen compared with the end of the previous fiscal year.

Liabilities

Total liabilities at the end of fiscal year increased 25.3 billion yen compared with the previous fiscal year-end to 869.4 billion yen. Interest-bearing debt amounted to 485.0 billion yen, an increase of 21.3 billion yen compared with the previous fiscal year-end. As a result, the interest-bearing debt ratio was 32.3%, a decrease of 0.1 percentage point.

Net Assets

Net assets totaled 631.7 billion yen, an increase of 44.5 billion yen compared with the previous fiscal year-end. The ratio of shareholders' equity to total assets was 36.8%, 1.1 percentage point increase from the previous fiscal year-end.

Accounting for the aforementioned factors, the net debt-equity ratio stood at 0.68 at the end of the fiscal year, 0.07 point decrease from the previous fiscal year-end.

Consolidated balance sheet as of March 31,2018 is restated due to amendments to accounting standards for tax effect accounting. Consequently, comparison with the end of the previous fiscal year is calculated based on the restated figures.

Capital Resources and Liquidity

Cash Flows

Cash and cash equivalents (hereafter called "cash") increased 31.0 billion yen to 109.8 billion yen as of the end of this fiscal year compared with the previous fiscal year-end.

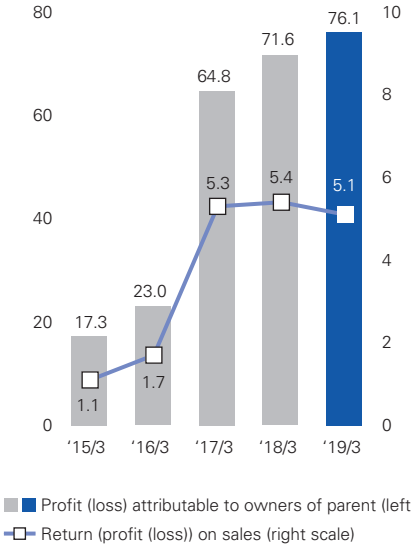
Cash Flows from Operating Activities

Net cash provided by operating activities increased 26.8 billion yen to 109.5 billion yen due to increase of profit before income taxes.

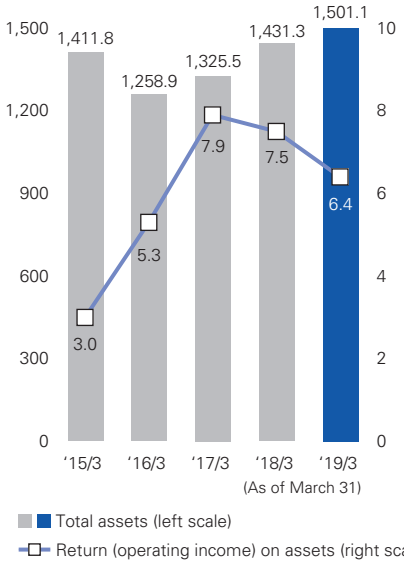
Cash Flows from Investing Activities

Net cash used in investing activities decreased 10.8 billion yen compared with the previous fiscal year to 64.3 billion yen, mainly because cash outflows from the tender offer for ARRK Corporation shares in the previous fiscal year is no longer recorded.

Profit (loss) attributable to owners of parent
(Billions of yen, %)



Total assets/
Return (operating income) on assets
(Billions of yen, %)



Cash Flows from Financing Activities

Net cash used in financing activities increased 3.9 billion yen compared with the previous fiscal year to 14.1 billion yen due primarily to the acquisition of treasury stock.

Cash Flows-Related Performance Indicators

	2019/3	2018/3	2017/3	2016/3	2015/3
Shareholders' equity ratio (%)	**36.8**	35.7	33.9	30.3	28.8
Shareholders' equity ratio on a market value basis (%)	**34.7**	46.6	41.5	29.8	27.4
Ratio of interest-bearing debt to cash flows	**4.4**	5.6	4.4	3.2	9.4
Interest coverage ratio (times)	**19.9**	14.8	17.3	20.7	7.7

Notes: Shareholders' equity ratio: shareholders' equity to total assets.
Shareholders' equity ratio on a market value basis: market capitalization to total assets.
Ratio of interest-bearing debt to cash flows: interest-bearing debt to cash flows.
Interest coverage ratio: cash flows to interest paid.
Each of the indicators was calculated using consolidated financial figures.
The market capitalization was calculated by multiplying the closing share price as of the end of the period with the number of shares outstanding (excluding treasury stock).
Operating cash flow figures have been used for cash flow calculations.
Interest-bearing debt is the portion of total debt booked on the consolidated balance sheet on which interest is being paid.
Interest paid is the amount of interest paid as reported in the consolidated statements of cash flows.
Consolidated balance sheet as of FY2017 is restated due to amendments to accounting standards for tax effect accounting. Consequently, shareholders' equity ratio and shareholders' equity ratio on a market value basis are calculated based on the restated figures.

Fund Procurement

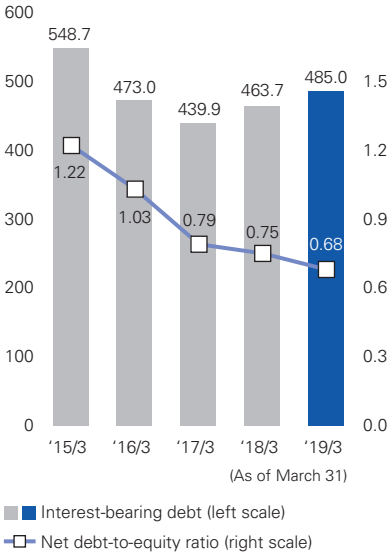
In connection with its fund procurement activities, the Group adopts the following basic policies.

1. Maintain a high credit rating so that low-cost funds can be procured, mainly through bonds, loans and commercial paper whenever necessary.
2. Utilize a certain level of indirect financing to preserve the stability of fund procurement activities.
3. Employ securitization and other schemes to liquidate assets in an effort to diversify fund procurement means.

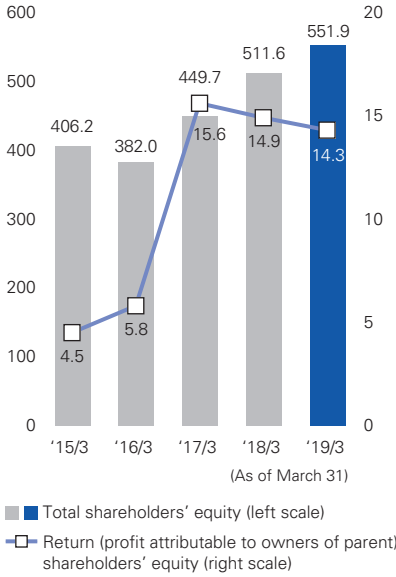
Financial Liquidity

With regard to asset efficiency, the Group will ensure sufficient levels of liquidity in hand while at the same time securing alternative sources of fund procurement, including credit and overdraft facilities.

Interest-bearing debt/
Net debt-to-equity ratio
(Billions of yen, %)



Total shareholders' equity/
Return (profit attributable to owners of parent) on equity
(Billions of yen, %)



Capital Expenditures (Summary)

The Company and its consolidated subsidiaries undertook capital expenditures totaling ¥61.9 billion in fiscal 2018. This amount includes expenditures on intangible fixed assets as well as long-term prepaid expenses. Expenditures by business segment were as follows.

Mobility

In Singapore (Mitsui Elastomers Singapore Pte. Ltd.), TAFMER™ increase production facility was under construction.

The total amount of capital expenditures in the Mobility segment was ¥17.3 billion.

Health Care

The total amount of capital expenditures in the Health care segment was ¥6.6 billion.

Food & Packaging

In Taiwan (Mitsui Chemicals Tohcello, Inc. Group), ICROS™ TAPE increase production facility was under construction.

The total amount of capital expenditures in the Food & Packaging segment was ¥15.0 billion.

Basic Materials

The total amount of capital expenditures in the Basic Materials segment was ¥18.5 billion.

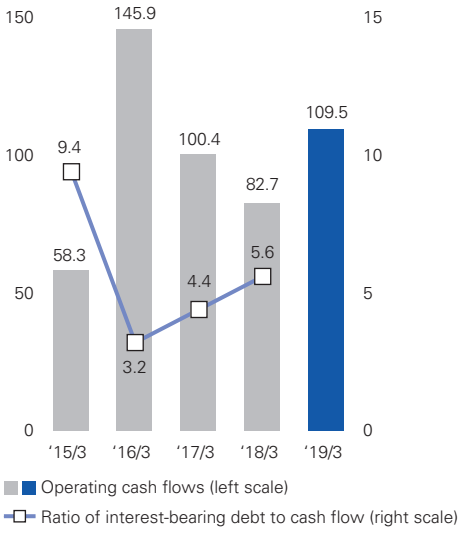
Others

The total amount of capital expenditures in the Others segment was ¥3.9 billion.

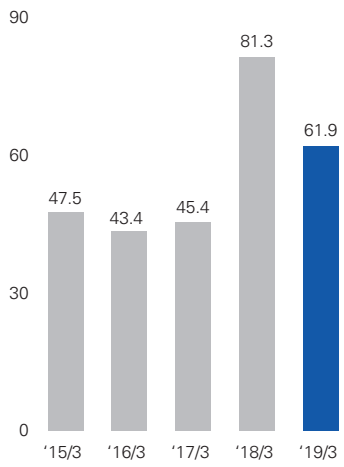
Corporate Expenses

The total amount of capital expenditures recorded under corporate expenses was ¥0.7 billion and was related to the development of new businesses.

Operating cash flows/
Ratio of interest-bearing debt to cash flow
(Billions of yen, %)



Capital expenditure
(Billions of yen)



Research and Development

Research and development at Mitsui Chemicals, Inc. and its consolidated subsidiaries is conducted by their research and development divisions. The research and development expenses in the fiscal year ended March 31, 2019 amounted to ¥35.8 billion. The Group's research and development organizations are as listed as below:

R&D Planning & Coordination Division
Mitsui Chemicals Singapore R&D Center Pte. Ltd.
Synthetic Chemicals Laboratory
Polymeric Materials Laboratory
Functional Materials Laboratory
New Products Development laboratory
Process Technology Center
Mobility Development Center

Major research and development issues confronting corporate research, development for new businesses and each business sector, and their research and development expenses for fiscal 2018 are briefly stated as follows.

Corporate Research

The Company is playing a central role in the fundamental technology development for each segment's product family. The Company also engages in the basic research of computing science and advanced analytical technique to support its product development. Mitsui Chemicals Singapore R&D Centre Pte Ltd. is leading the basic research in consideration of new business creation in Asia.

Research and development expenses relating to corporate research amounted to ¥4.8 billion and were allocated among all reportable segments.

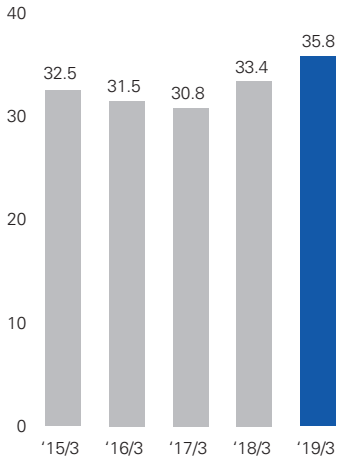
Development for New Businesses

The Company is playing a central role in research and development activities by project, all of which are aimed at new businesses creation in the Mobility domain and the Healthcare domain. In fiscal 2018, the Company worked on the development and assessment of metal and resin injection assembly technology, which lightens automobiles and improves mileage, components of lithium-ion batteries for a higher safety level, and technology development for solar power consultation.

In the Food & Packaging domain, the Company and Mitsui Chemicals Tohcello, Inc. collaborated in research and development for new business development.

Research and development expenses related to new businesses creation amounted to ¥3.6 billion. Those are presented in corporate expenses and other segments.

R&D expenses
(Billions of yen)



Mobility

The Company engages in the development of elastomers, performance compounds, and performance polymer resins in the Mobility domain. In fiscal 2018, the Company placed considerable weight on development activities encompassing new polyolefin elastomers for automobiles and packaging, engineering plastic compounds for use as heat-resistant materials for automobiles, and polyolefins for ICT.

Research and development expenses related to this segment were ¥8.2 billion.

Health Care

The Company engages in development in the Healthcare domain in such areas as vision-care, oral-care materials, and highly functional non-woven fabrics for both hygiene material use and medical use. Kulzer GmbH and Sun Medical Co., Ltd. engage in the product development of dental materials. In fiscal 2018, efforts were mainly directed toward materials for glass lenses and dental materials.

Research and development expenses related to this segment were ¥4.4 billion for the fiscal year.

Food & Packaging

Mitsui Chemicals Tohcello Inc. takes the lead in developing food packaging materials and fabricated products, including Food & Packaging in the fields of IT and energy. Mitsui Chemicals Agro, Inc. engages in agrochemical research and development. In fiscal 2018, priority was placed on food packaging materials, integrated circuit and semiconductor materials, solar cell components, highly functional agrochemicals, and pesticides for disinfection.

Research and development expenses related to this segment were ¥10.1 billion.

Basic Materials

The Company engages in the research and development of phenol and its derivative products, industrial chemicals such as hydroquinone, purified terephthalic acid (PTA), and PET resin for strengthening its business in the Basic Materials domain.

In addition, Mitsui Chemicals & SKC Polyurethanes Inc. are active in the development of such functional products as polyurethane foam materials in the Mobility domain.

Also, together with Prime Polymer Co., Ltd. the Company is developing such highly-functional products as PP compounds in the Mobility domain and highly-functional catalysts that strengthen the competitiveness of its polyolefin resin in the Food & Packaging domain.

Research and development expenses related to this segment were ¥4.7 billion.

Business Risks

The Mitsui Chemicals Group recognizes that management activities may be threatened by a wide range of conceivable and apparent risks. For this reason, the Group is dedicated to crafting initiatives able to prevent or minimize the escalation of these risks.

The items detailed below represent some of the risks that could potentially and adversely impact the Group's future operating performance and financial position. Readers are cautioned that this partial list does not constitute all of the risks faced by the Group.

Please note that the risks discussed below were those deemed relevant as of March 31, 2019.

(1) External operating environment

The Mitsui Chemicals Group businesses may be influenced by certain elements of the operating environment outside of the Group, including customer, market, alliance partner trends and the business operations of rival firms as well as changes in legal systems. In the event that actual circumstances upon which the Group's business strategies are based change as a result of these environmental influences, the Group's ability to implement these strategies on schedule could be impaired, and anticipated results may not materialize. The Group takes into consideration risks posed by such unavoidable environmental changes. With respect to products, a variety of risks could conceivably result in a decline in profitability. These include, but are not limited to, an erosion of market demand, loss of customers, and deterioration in market conditions caused by oversupply due to increased production capacity at rival firms or the market entry of low-priced products. Profitability may also decline due to drastic changes in the cost of raw materials, as well as the impact of supply stoppages due to accidents or bankruptcies at raw material manufacturers. Other conceivable risks include an increase in the tax burden attributable to changes in legal systems. The occurrence of any or all of these risks could adversely impact the Group's business development as well as operating performance and financial position.

(2) Overseas activities (Country risk)

The Mitsui Chemicals Group is involved in a wide range of activities outside of Japan, from the export of products to production at overseas bases. These activities overseas are subject to various risks, including difficulties in securing personnel, deterioration in political and economic conditions, regulations regarding imports and foreign capital, deterioration in public safety and security, labor unrest, and the outbreak of terrorism or warfare. The occurrence of such risks could impair the Group's business activities overseas, which may adversely impact operating performance.

(3) Changes in laws and tightening of regulations

The business development of the Mitsui Chemicals Group is subject to a wide range of legal acts and ordinances, which include a variety of licensing and regulatory requirements. Consequently, the Group remains keenly aware that its continued survival as a corporation is contingent on strict compliance with laws and regulations.

To this end, the Group has enacted training programs that incorporate examples of legal violations within and outside Mitsui Chemicals together with other initiatives aimed at promoting legal compliance. Other risks faced by the Group are the prospect of major changes to or a tightening of laws relevant to the Group, or unexpected amendments to laws and regulations overseas. Restrictions placed on the Group's activities, as well as increased costs associated with compliance with amended laws or more stringent regulations, could impair the Group's business activities, thus adversely impacting operating performance and financial position.

(4) Causes of changes in segment operating performance

The Mitsui Chemicals Group engages in the manufacture and sale of a wide array of products led by mobility, health care, food & packaging and basic materials. Assumed risks for each key business are as follows.

i. Mobility

Mobility segment products are primarily produced from ethylene, propylene, and other naphtha derivatives. As described below, segment product earnings could be adversely impacted by temporary delays in passing higher raw material prices on to product prices in the event of a sharp increase in naphtha supply prices caused by circumstances in the Middle East or global economic conditions.

ii. Health Care

Health care segment product earnings could be adversely impacted by price competition caused by the business expansion of rivals.

iii. Food & Packaging

Performance films and sheets products are primarily produced from polyethylene, polypropylene and other naphtha derivatives handled by the Basic Materials segment. As described below, those product earnings could be adversely impacted by delays in passing higher raw material prices on to product prices in the event of a sharp swing in naphtha supply prices caused by circumstances in the Middle East or global economic conditions.

Agrochemicals earnings could be adversely affected by such factors as changing global weather patterns, the appearance of harmful insects, and fluctuations in the cost of tests required for the development and registration of new products.

iv. Basic Materials

Petrochemicals products are primarily produced from naphtha. Naphtha supply volume and prices could fluctuate sharply due to circumstances in the Middle East or global economic conditions. In the event of a sharp increase or decrease in naphtha prices, segment product earnings could be adversely impacted by delays in passing such fluctuations on to product prices, the emergence of inventory valuation losses, or other factors.

Basic chemicals products could be adversely impacted by a rapid deterioration in market conditions caused by an oversupply, as these products are vulnerable to fluctuations in this overcrowded market.

(5) Financial risks

Major financial risks faced by the Mitsui Chemicals Group are increased concerns about customer confidence due to deteriorating economic conditions, currency exchange losses due to dramatic fluctuations in exchange rates, and rising interest rates and a reluctance to lend by financial institutions with respect to fund procurement.

The occurrence of any one of these risks could adversely impact the Group's financial position.

(6) Impairment of fixed assets

The Mitsui Chemicals Group has adopted the accounting standard for the impairment of fixed assets. Looking ahead, any downturn in profitability due to a marked deterioration in operating conditions or other factors, or drop in the market value of fixed assets held by the Group, may cause impairment losses to be recorded and have an adverse impact on the Group's operating performance and financial position.

(7) Impairment of marketable securities

The Mitsui Chemicals Group holds marketable securities with fair values that are mainly from its customers and financial institutions in order to maintain and strengthen relationships with them. Any incidence of impairment attributable to a substantial drop in the market prices of marketable securities held by the Group may adversely impact the Group's operating performance and financial position.

(8) Deferred tax assets

The Mitsui Chemicals Group determines the collectability of deferred tax assets based on forecasts and assumptions related to future taxable income. Any change in the forecasts and assumptions related to future taxable income may adversely impact the operating performance and financial position of the Group. Any change in a key parameter that is significant enough to require a revision of deferred tax asset calculations, such as a shift in the income tax rate due to an amendment to the taxation regulations, may also adversely impact the operating performance and financial position of the Group.

(9) Retirement benefits plans

The retirement benefit obligation and retirement benefit expenses applicable to employees and former employees of the Mitsui Chemicals Group are calculated on an actuarial valuation basis that incorporates a variety of factors, including a wide range of basic rates and pension asset investment yields. Any fluctuations in retirement benefit expenses attributable to such factors as a drop in the market values of pension assets, a change in the interest rate, or a revision to the retirement benefit plan may adversely impact the operating performance and financial position of the Group.

(10) Corporate acquisition, capital alliance and business reorganization

Aiming for a transformation of its business portfolio, the Mitsui Chemicals Group engages in a variety of activities, including the acquisition of companies and the establishment of business alliances. Any failures to realize the growth synergy benefits or other expected merits due to such factors as a deterioration in the operating environment of the Group and the companies in which it is invested, may adversely impact the operating performance and financial position of the Group.

In addition, business reorganization, along with the withdrawal from unprofitable businesses and the liquidation of subsidiaries or affiliates, may also adversely impact the operating performance and financial position of the Group.

(11) Accidents and disasters

In an effort to ensure workplace safety, the Mitsui Chemicals Group vigorously promotes OHSAS 18001 certification of the occupational health and safety management systems used in its production activities at works. Business continuity plans have also been formulated to quickly reestablish the business chain of command in the event that head office functions are affected by a major earthquake in the Tokyo metropolitan area. Nevertheless, the Group faces risks from a variety of unforeseen events, including damage to production facilities caused by natural disasters such as major earthquakes and typhoons, plant accidents, and accidents during the course of product transport or storage at warehousing facilities outside the Group. The occurrence of these risks may not only impede plant operations or the supply of products to customers, thereby adversely impacting the Group's operating performance and financial position, but could also potentially undermine the social standing of the Group.

Business Risks

(12) Quality

To uphold its quality assurance system, the Mitsui Chemicals Group vigorously promotes efforts to obtain ISO 9001 certification of the quality management systems at each of its plants. Nevertheless, the Group faces risks from the discovery of unforeseen quality defects in its products and product liability lawsuits. Because many the Group's products are used as raw materials in finished consumer goods, the appearance of large-scale customer recalls due to product defects could potentially result in massive damages. The occurrence of these risks may not only adversely impact the Group's operating performance and financial position, but could also potentially undermine the social standing of the Group.

(13) The environment

As a group that handles a wide range of chemical substances, the Mitsui Chemicals Group has made harmony with the environment one of its long-term management targets. In addition to ensuring compliance with environmental laws and regulations, the Group promotes initiatives for reducing greenhouse gas (GHG) emissions and minimizing the amount of industrial waste sent to landfill for final disposal.

Environmental risks relevant to the Group include the incurrence of new social responsibilities due to tighter environmental regulations or changes in public sentiment regarding environmental protection, as well as the discovery of environmental pollution stemming from actions taken by the Group prior to the enactment of environmental laws. These and other situations could increase costs associated with legal compliance and environmental countermeasures and have other consequences, which could adversely impact the Group's operating performance and financial position.

(14) Intellectual property

Possessing a significant array of proprietary technologies and expertise, the Mitsui Chemicals Group manages information in accordance with strict rules. Nevertheless, information leaks could potentially occur due to unforeseen circumstances. In addition, the Group could potentially be subject to unfavorable court judgement in the event of a future legal dispute concerning intellectual property. The occurrence of such events could adversely impact the Group's operating performance and financial position.

(15) Climate change

The negative effects of climate change are becoming increasingly severe and are thus recognized as social issues that must be addressed globally, as demonstrated by the Paris Agreement and the SDGs. The process of manufacturing chemicals emits large amounts of greenhouse gases (GHG), the primary cause of climate change. The physical risks associated with climate change and risks pertaining to the transition to a low-carbon society have the potential to adversely affect the Group's business results and financial position. Accordingly, how we address climate change is considered a key issue (materiality) at the Mitsui Chemicals Group. In terms of physical risks, extreme weather events such as typhoons and floods have the potential to become more serious. Such events could lower production capacity at the Group's manufacturing bases and trigger an increase in costs from damages. Moreover, in regions where there is a heightened water risk owing to fluctuations in rainfall, production activity at our manufacturing bases may be limited by restrictions on water use as a result of drought.

As for risks pertaining to the transition to a low-carbon society, in the event GHG emission restrictions are introduced, for example, a carbon tax or an emissions trading scheme, prices for raw materials and fuel will likely increase and subsequently push up the cost of electricity. This could drive up the Group's manufacturing costs and dent earnings. And depending on the circumstances surrounding the shift to a low-carbon society, we may see more calls from our stakeholders for products that help reduce GHG emissions. In responding to those demands, the Group's earnings could decline as a result of higher R&D expenses and an increase in capital expenditure for implementing new technologies.

The Mitsui Chemicals Group considers climate change to be not only a risk, but also an opportunity. As such, we aim to solve social issues related to climate change through our business activities. Furthermore, in order to clarify our stance on addressing risks and opportunities related to climate change and assessing its impacts, we support the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). In this way we continue to assess the impacts of climate change and engage in appropriate information disclosure.

(16) Marine plastic pollution

Plastic is a material that brings convenience and benefits and also helps solve challenges in society by, for example, reducing food waste and improving energy efficiency thanks to its advanced functionality. However, concerns have been raised for some time now about the problem of plastic ending up in the world's oceans—the result of a few million tons of plastic waste being disposed inappropriately every year. Interest in this issue has grown rapidly in recent years as companies begin to focus more on the Paris Agreement, the SDGs, and ESG topics, and as a result, active steps are being taken worldwide to find a solution.

Various controls are being considered globally with governments and corporations considering the use of recycled plastic and enacting self-imposed bans on single-use plastics. The potential use of alternative materials is also gaining momentum. Measures that seek to recycle resources are also gaining traction, particularly in Europe, with all companies in the value chain examining ways to reuse and recycle. These movements could negatively affect the Group's business results and financial position.

The Mitsui Chemicals Group recognizes that the problem of plastic is one key issue that the chemicals industry must take the initiative to address.

As part of our efforts to address the aforementioned risks, we work together with plastic-related value-chain corporations and industry bodies and participate in the activities of the Japan Initiative for Marine Environment and the Alliance to End Plastic Waste. The latter comprises global plastic value-chain corporations that contribute large sums of money to fund efforts to end plastic waste in the environment. Through these activities we are working to solve problems by actively contributing to the development of infrastructure for waste control, promotion of innovation, education and awareness activities, and clean-up campaigns. We also think the recycling of resources presents business opportunities. We will continue to promote the recycling of resources by examining a broad range of possibilities, including the use of recycled raw materials, the development of recycling technologies such as chemical recycling to turn automotive scrap into useful plastic, and the design of products that consider the recycling such as the packaging made of a single material.

As a manufacturer and provider of plastic materials that have thus far solved various challenges in society, the Mitsui Chemicals Group will continue to proactively address the problem of plastic in the environment.

Consolidated Balance Sheets

MITSUI CHEMICALS, INC. AND CONSOLIDATED SUBSIDIARIES
March 31, 2019 and 2018

		Millions of yen		Thousands of U.S. dollars (Note 4)
		2019/3	2018/3	2019/3
ASSETS	**Current assets**			
	Cash and deposits (Notes 14 and 16)	**¥ 111,056**	¥ 80,209	**$ 1,000,595**
	Notes and accounts receivable-trade (Note 16)	**310,591**	306,899	**2,798,369**
	Inventories (Note 5)	**301,890**	274,342	**2,719,975**
	Accounts receivable-other	**55,288**	60,356	**498,135**
	Other	**8,570**	10,193	**77,214**
	Allowance for doubtful accounts	**(718)**	(673)	**(6,469)**
	Total current assets	**786,677**	731,326	**7,087,819**
	Non-current assets			
	Property, plant and equipment			
	Buildings and structures	**352,569**	343,555	**3,176,583**
	Accumulated depreciation	**(241,112)**	(236,725)	**(2,172,376)**
	Buildings and structures, net	**111,457**	106,830	**1,004,207**
	Machinery, equipment and vehicles	**1,030,949**	997,563	**9,288,666**
	Accumulated depreciation	**(889,978)**	(865,884)	**(8,018,542)**
	Machinery, equipment and vehicles, net	**140,971**	131,679	**1,270,124**
	Land	**156,556**	159,018	**1,410,541**
	Construction in progress	**18,515**	20,462	**166,817**
	Other	**78,508**	76,136	**707,343**
	Accumulated depreciation	**(62,944)**	(61,217)	**(567,114)**
	Other, net	**15,564**	14,919	**140,229**
	Total property, plant and equipment	**443,063**	432,908	**3,991,918**
	Intangible assets			
	Goodwill	**5,061**	5,684	**45,599**
	Other	**24,324**	25,792	**219,155**
	Total intangible assets	**29,385**	31,476	**264,754**
	Investments and other assets			
	Investment securities (Notes 16 and 17)	**151,847**	159,428	**1,368,114**
	Net defined benefit asset (Note 6)	**42,653**	41,549	**384,296**
	Deferred tax assets (Note 19)	**11,386**	10,673	**102,586**
	Other	**38,511**	26,369	**346,977**
	Allowance for doubtful accounts	**(2,448)**	(2,420)	**(22,056)**
	Total investments and other assets	**241,949**	235,599	**2,179,917**
	Total non-current assets	**714,397**	699,983	**6,436,589**
	Total assets	**¥1,501,074**	¥1,431,309	**$13,524,408**

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

		Millions of yen		Thousands of U.S. dollars (Note 4)
		2019/3	2018/3	**2019/3**
LIABILITIES AND NET ASSETS	**Current liabilities**			
	Notes and accounts payable-trade (Note 16)	**¥ 163,908**	¥ 162,179	**$ 1,476,782**
	Short-term loans payable (Notes 7 and 16)	**92,733**	94,348	**835,508**
	Current portion of long-term loans payable (Note 7)	**57,571**	24,834	**518,704**
	Commercial papers (Notes 7 and 16)	**10,000**	20,000	**90,098**
	Current portion of bonds payable (Notes 7 and 16)	**426**	15,426	**3,838**
	Accounts payable-other	**79,245**	69,299	**713,983**
	Income taxes payable (Note 19)	**9,372**	7,956	**84,440**
	Provision for directors' bonuses	**175**	158	**1,577**
	Provision for repairs	**13,089**	13,585	**117,930**
	Asset retirement obligations	**5**	—	**45**
	Other (Notes 7 and 19)	**32,234**	35,320	**290,423**
	Total current liabilities	**458,758**	443,105	**4,133,328**
	Non-current liabilities			
	Bonds payable (Note 7)	**66,438**	31,864	**598,594**
	Long-term loans payable (Notes 7 and 16)	**254,850**	274,099	**2,296,153**
	Deferred tax liabilities (Note 19)	**11,471**	13,240	**103,352**
	Provision for directors' retirement benefits	**243**	250	**2,189**
	Provision for repairs	**2,682**	2,880	**24,164**
	Provision for environmental measures	**551**	675	**4,964**
	Net defined benefit liability (Note 6)	**56,428**	55,220	**508,406**
	Asset retirement obligations	**3,203**	4,330	**28,858**
	Other (Notes 7 and 19)	**14,711**	18,424	**132,545**
	Total non-current liabilities	**410,577**	400,982	**3,699,225**
	Total liabilities	**869,335**	844,087	**7,832,553**
	Net assets			
	Shareholders' equity (Note 12)			
	Capital stock	**125,205**	125,125	**1,128,075**
	Capital surplus	**89,406**	89,327	**805,532**
	Retained earnings	**348,202**	291,000	**3,137,237**
	Treasury stock	**(29,869)**	(19,842)	**(269,114)**
	Total shareholders' equity	**532,944**	485,610	**4,801,730**
	Accumulated other comprehensive income (Note 13)			
	Valuation difference on available-for-sale securities	**21,421**	26,558	**192,999**
	Deferred gains or losses on hedges	**(3)**	(16)	**(27)**
	Foreign currency translation adjustment	**4,195**	5,037	**37,796**
	Remeasurements of defined benefit plans	**(6,642)**	(5,603)	**(59,843)**
	Total accumulated other comprehensive income (loss)	**18,971**	25,976	**170,925**
	Non-controlling interests	**79,824**	75,636	**719,200**
	Total net assets	**631,739**	587,222	**5,691,855**
	Total liabilities and net assets	**¥1,501,074**	¥1,431,309	**$13,524,408**

Consolidated Statements of Operations

MITSUI CHEMICALS, INC. AND CONSOLIDATED SUBSIDIARIES
For the years ended March 31, 2019 and 2018

	Millions of yen		Thousands of U.S. dollars (Note 4)
	2019/3	2018/3	**2019/3**
Net sales	**¥1,482,909**	¥1,328,526	**$13,360,744**
Cost of sales (Notes 6 and 9)	**1,166,577**	1,019,160	**10,510,650**
Gross profit	**316,332**	309,366	**2,850,094**
Selling, general and administrative expenses (Notes 6 and 9)	**222,905**	205,875	**2,008,333**
Operating income (loss)	**93,427**	103,491	**841,761**
Non-operating income and expenses			
Non-operating income			
Interest income	**2,063**	1,471	**18,587**
Dividends income	**2,799**	3,317	**25,218**
Share of profit of entities accounted for using equity method	**10,807**	7,063	**97,369**
Rent income	**819**	744	**7,379**
Insurance income	**419**	2,318	**3,775**
Other	**3,890**	2,408	**35,049**
Total non-operating income	**20,797**	17,321	**187,377**
Non-operating expenses			
Interest expenses	**5,534**	5,478	**49,860**
Loss on suspension of operations	**893**	588	**8,046**
Foreign exchange losses	**372**	1,201	**3,352**
Other	**4,453**	3,340	**40,121**
Total non-operating expenses	**11,252**	10,607	**101,379**
Ordinary income (loss)	**102,972**	110,205	**927,759**
Extraordinary income and losses			
Extraordinary income			
Gain on sales of non-current assets	**79**	2,778	**712**
Gain on sales of investment securities	**3,663**	767	**33,003**
Gain on transfer of business	**743**	591	**6,694**
Gain on forgiveness of debts	**—**	2,010	**—**
Gain on revision of retirement benefit plan	**—**	326	**—**
Insurance income	**11,368**	—	**102,424**
Total extraordinary income	**15,853**	6,472	**142,833**
Extraordinary losses			
Loss on disposal of non-current assets	**4,352**	2,389	**39,211**
Loss on sales of non-current assets	**75**	9	**676**
Impairment loss (Note 10)	**1,454**	15,012	**13,100**
Loss on valuation of investment securities	**171**	5,059	**1,541**
Loss on fire (Note 11)	**7,476**	—	**67,357**
Total extraordinary losses	**13,528**	22,469	**121,885**
Profit (loss) before income taxes	**105,297**	94,208	**948,707**
Income taxes—current	**18,879**	18,819	**170,096**
Income taxes—deferred	**(105)**	(3,629)	**(946)**
Total income taxes	**18,774**	15,190	**169,150**
Profit (loss)	**86,523**	79,018	**779,557**
Profit (loss) attributable to non-controlling interests	**10,408**	7,433	**93,774**
Profit (loss) attributable to owners of parent	**¥ 76,115**	¥ 71,585	**$ 685,783**

Amounts per share of common stock:

	Yen		U.S. dollars (Note 4)
Earnings per share	**¥385.60**	¥358.38	**$3.474**
Cash dividends per share	**100.00**	90.00	**0.901**

Consolidated Statements of Comprehensive Income

MITSUI CHEMICALS, INC. AND CONSOLIDATED SUBSIDIARIES

For the years ended March 31, 2019 and 2018

	Millions of yen		Thousands of U.S. dollars (Note 4)
	2019/3	2018/3	**2019/3**
Profit (loss)	**¥86,523**	¥79,018	**$779,557**
Other Comprehensive income (loss) (Note 13)			
Valuation difference on available-for-sale securities	**(5,581)**	6,405	**(50,284)**
Deferred gains or losses on hedges	**4**	(5)	**36**
Foreign currency translation adjustments	**1,632**	(2,311)	**14,704**
Remeasurements of defined benefit plans	**(969)**	6,975	**(8,731)**
Share of other comprehensive income (loss) of entities accounted for using equity method	**(2,383)**	3,049	**(21,470)**
Total other comprehensive income (loss)	**(7,297)**	14,113	**(65,745)**
Comprehensive income (loss)	**¥79,226**	¥93,131	**$713,812**
Comprehensive income (loss) attributable to:			
Owners of parent	**¥69,109**	¥85,667	**$622,660**
Non-controlling interests	**10,117**	7,464	**91,152**

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

Consolidated Statements of Changes in Net Assets

MITSUI CHEMICALS, INC. AND CONSOLIDATED SUBSIDIARIES

For the years ended March 31, 2019 and 2018

Millions of yen

	Capital stock	Capital surplus	Retained earnings	Treasury stock	Valuation difference on available-for-sale securities	Deferred gain (loss) on hedges	Foreign currency translation adjustments	Remeasurements of defined benefit plans	Non-controlling interests	Total net assets
Balance at April 1, 2017	¥125,053	¥90,491	¥236,961	¥(14,708)	¥20,337	¥(25)	¥4,211	¥(12,628)	¥64,943	¥514,635
Issuance of new shares	72	72	—	—	—	—	—	—	—	144
Dividends of surplus	—	—	(18,007)	—	—	—	—	—	—	(18,007)
Profit attributable to owners of parent	—	—	71,585	—	—	—	—	—	—	71,585
Purchase of treasury stock	—	—	—	(5,141)	—	—	—	—	—	(5,141)
Disposal of treasury stock	—	(0)	—	7	—	—	—	—	—	7
Change in ownership interest of parent related to transactions with non-controlling interests	—	(1,236)	—	—	—	—	—	—	—	(1,236)
Change of scope of equity method	—	—	—	—	—	—	—	—	—	—
Cumulative effects of changes in accounting policies	—	—	462	—	—	—	—	—	—	462
Net changes of items other than shareholders' equity	—	—	—	—	6,221	9	826	7,025	10,693	24,774
Balance at April 1, 2018	¥125,125	¥89,327	¥291,000	¥(19,842)	¥26,558	¥(16)	¥5,037	¥(5,603)	¥75,636	¥587,222
Issuance of new shares	**80**	**80**	—	—	—	—	—	—	—	**160**
Dividends of surplus	—	—	**(18,878)**	—	—	—	—	—	—	**(18,878)**
Profit attributable to owners of parent	—	—	**76,115**	—	—	—	—	—	—	**76,115**
Purchase of treasury stock	—	—	—	**(10,033)**	—	—	—	—	—	**(10,033)**
Disposal of treasury stock	—	**(1)**	—	**6**	—	—	—	—	—	**5**
Change in ownership interest of parent related to transactions with non-controlling interests	—	—	—	—	—	—	—	—	—	—
Change of scope of equity method	—	—	**(35)**	—	—	—	—	—	—	**(35)**
Cumulative effects of changes in accounting policies	—	—	—	—	—	—	—	—	—	—
Net changes of items other than shareholders' equity	—	—	—	—	**(5,137)**	**13**	**(842)**	**(1,039)**	**4,188**	**(2,817)**
Balance at March 31, 2019	**¥125,205**	**¥89,406**	**¥348,202**	**¥(29,869)**	**¥21,421**	**¥(3)**	**¥4,195**	**¥(6,642)**	**¥79,824**	**¥631,739**

Thousands of U.S. dollars (Note 4)

	Capital stock	Capital surplus	Retained earnings	Treasury stock	Valuation difference on available-for-sale securities	Deferred gain (loss) on hedges	Foreign currency translation adjustments	Remeasurements of defined benefit plans	Non-controlling interests	Total net assets
Balance at April 1, 2018	$1,127,354	$804,820	$2,621,858	$(178,773)	$239,283	$(144)	$45,382	$(50,482)	$681,467	$5,290,765
Issuance of new shares	**721**	**721**	—	—	—	—	—	—	—	**1,442**
Dividends of surplus	—	—	**(170,089)**	—	—	—	—	—	—	**(170,089)**
Profit attributable to owners of parent	—	—	**685,783**	—	—	—	—	—	—	**685,783**
Purchase of treasury stock	—	—	—	**(90,395)**	—	—	—	—	—	**(90,395)**
Disposal of treasury stock	—	**(9)**	—	**54**	—	—	—	—	—	**45**
Change in ownership interest of parent related to transactions with non-controlling interests	—	—	—	—	—	—	—	—	—	—
Change of scope of equity method	—	—	**(315)**	—	—	—	—	—	—	**(315)**
Cumulative effects of changes in accounting policies	—	—	—	—	—	—	—	—	—	—
Net changes of items other than shareholders' equity	—	—	—	—	**(46,283)**	**117**	**(7,586)**	**(9,361)**	**37,733**	**(25,381)**
Balance at March 31, 2019	**$1,128,075**	**$805,532**	**$3,137,237**	**$(269,114)**	**$192,999**	**$(27)**	**$37,796**	**$(59,843)**	**$719,200**	**$5,691,855**

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

Consolidated Statements of Cash Flows

MITSUI CHEMICALS, INC. AND CONSOLIDATED SUBSIDIARIES
For the years ended March 31, 2019 and 2018

	Millions of yen		Thousands of U.S. dollars (Note 4)
	2019/3	2018/3	**2019/3**
Cash flows from operating activities			
Profit (loss) before income taxes	**¥105,297**	¥94,208	**$ 948,707**
Depreciation	**48,853**	44,835	**440,157**
Amortization of goodwill	**651**	819	**5,865**
Impairment loss	**1,454**	15,012	**13,100**
Increase (decrease) in net defined benefit liability	**417**	323	**3,757**
Decrease (increase) in net defined benefit asset	**(1,085)**	(4,393)	**(9,776)**
Increase (decrease) in allowance for doubtful accounts	**97**	(7)	**874**
Increase (decrease) in provision for repairs	**(694)**	414	**(6,253)**
Increase (decrease) in provision for environmental measures	**(126)**	(57)	**(1,135)**
Interest and dividends income	**(4,862)**	(4,788)	**(43,806)**
Insurance income	**(11,787)**	(2,318)	**(106,199)**
Interest expenses	**5,534**	5,478	**49,860**
Share of (profit) loss of entities accounted for using equity method	**(10,807)**	(7,063)	**(97,369)**
Loss (gain) on sales of investment securities	**(3,650)**	(814)	**(32,886)**
Loss (gain) on valuation of investment securities	**171**	5,059	**1,541**
Loss on disposal of non-current assets	**1,050**	1,067	**9,460**
Loss (gain) on sales of non-current assets	**(4)**	(2,769)	**(36)**
Decrease (increase) in notes and accounts receivable—trade	**(3,255)**	(23,381)	**(29,327)**
Decrease (increase) in inventories	**(26,629)**	(26,419)	**(239,923)**
Increase (decrease) in notes and accounts payable—trade	**1,300**	13,786	**11,713**
Other, net	**9,870**	(15,314)	**88,929**
Subtotal	**111,795**	93,678	**1,007,253**
Interest and dividends income received	**8,975**	9,011	**80,863**
Interest expenses paid	**(5,507)**	(5,583)	**(49,617)**
Proceeds from insurance income	**11,353**	2,752	**102,288**
Income taxes paid	**(17,124)**	(17,198)	**(154,284)**
Net cash provided by (used in) operating activities	**109,492**	82,660	**986,503**
Cash flows from investing activities			
Purchase of property, plant and equipment	**(53,191)**	(49,587)	**(479,241)**
Proceeds from sales of property, plant and equipment	**4,016**	337	**36,183**
Purchase of intangible assets	**(2,564)**	(3,085)	**(23,101)**
Proceeds from sales of intangible assets	**—**	2,502	**—**
Purchase of long-term prepaid expenses	**(189)**	(1,346)	**(1,703)**
Purchase of investment securities	**(23,952)**	(3,986)	**(215,803)**
Proceeds from sales and redemption of investment securities (Note 17)	**9,434**	1,521	**84,999**
Proceeds from transfer of business	**743**	1,486	**6,694**
Purchase of shares of subsidiaries resulting in change in scope of consolidation (Note 14)	**—**	(16,350)	**—**
Payments of long-term loans receivable	**(90)**	(5,208)	**(811)**
Other, net	**1,538**	(1,325)	**13,857**
Net cash provided by (used in) investing activities	**(64,255)**	(75,041)	**(578,926)**
Cash flows from financing activities			
Net increase (decrease) in short-term loans payable	**(1,739)**	4,072	**(15,668)**
Increase (decrease) in commercial papers	**(10,000)**	20,000	**(90,098)**
Proceeds from long-term loans payable	**38,221**	29,711	**344,364**
Repayment of long-term loans payable	**(25,166)**	(19,476)	**(226,741)**
Proceeds from issuance of bonds payable	**35,000**	10,000	**315,344**
Redemption of bonds payable	**(15,426)**	(24,284)	**(138,985)**
Proceeds from stock issuance to non-controlling shareholders	**355**	—	**3,198**
Proceeds from sales of treasury stock	**5**	7	**45**
Purchase of treasury stock	**(10,033)**	(5,141)	**(90,396)**
Cash dividends paid	**(18,878)**	(18,007)	**(170,087)**
Dividends paid to non-controlling interests	**(6,335)**	(6,397)	**(57,077)**
Payments from changes in ownership interests in subsidiaries that do not result in change in scope of consolidation	**—**	(552)	**—**
Other, net	**(138)**	(138)	**(1,244)**
Net cash provided by (used in) financing activities	**(14,134)**	(10,205)	**(127,345)**
Effect of exchange rate change on cash and cash equivalents	**(92)**	(1,170)	**(828)**
Net increase (decrease) in cash and cash equivalents	**31,011**	(3,756)	**279,404**
Cash and cash equivalents at beginning of period	**78,828**	82,884	**710,226**
Decrease in cash and cash equivalents resulting from exclusion of subsidiaries from consolidation	**—**	(300)	**—**
Cash and cash equivalents at end of period (Note 14)	**¥109,839**	¥78,828	**$ 989,630**

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

Notes to Consolidated Financial Statements

MITSUI CHEMICALS, INC. AND CONSOLIDATED SUBSIDIARIES
For the years ended March 31, 2019 and 2018

1. Basis of preparation

The accompanying consolidated financial statements of Mitsui Chemicals, Inc. (the "Company") and its consolidated subsidiaries have been prepared in accordance with accounting principles generally accepted in Japan and have been compiled from those prepared by the Company as required under the Financial Instruments and Exchange Act, which are different in certain respects as to the application and disclosure requirements of International Financial Reporting Standards.

Certain amounts in the prior years' financial statements have been reclassified to conform to the current year's presentation.

2. Significant accounting policies

a. Consolidation

The accompanying consolidated financial statements include the accounts of the Company and significant companies over which the Company exerts control through majority voting rights or the existence of certain conditions evidencing substantial control by the Company.

The assets and liabilities of the consolidated subsidiaries, including the portions attributable to non-controlling shareholders, were evaluated using the fair value at the time the Company acquired control of the respective subsidiaries. The excess of the cost of investments in consolidated subsidiaries over the net assets acquired is deferred as goodwill and is amortized over a period of 20 years or less.

All significant intercompany transactions and accounts have been eliminated in consolidation.

Investments in non-consolidated subsidiaries and affiliates, in which the Company has the ability to exercise significant influence over their operating and financial policies, are accounted for by the equity method.

Non-consolidated subsidiaries and affiliates in the process of liquidation are stated at cost or less.

As of March 31, 2019, the Group comprised 116 consolidated subsidiaries, one more than the previous fiscal year. This reflected the inclusion of two new companies, including Mitsui Prime Advanced Composites Europe B.V., and the exclusion of one former subsidiary, Acomon Inc. was due to liquidation.

The equity method is applied to 39 non-consolidated subsidiaries and affiliates.

b. Foreign currency translation

Receivables and payables denominated in foreign currencies are translated into Japanese yen at the year-end rates. The Company and its consolidated subsidiaries have reported foreign currency translation adjustments as a component of accumulated other comprehensive income (loss) and non-controlling interests.

c. Inventories

Inventories are stated primarily at the lower of cost or market. Costs are determined by the weighted-average method.

d. Securities

Securities other than equity securities issued by subsidiaries and affiliates, which are held by the Company and its subsidiaries, are classified into two categories: held-to-maturity or other securities.

Held-to-maturity securities are carried at amortized cost.

Marketable securities classified as other securities are carried at fair value with changes in unrealized holding gain or loss, net of the applicable income taxes, included directly in net assets. Non-marketable securities classified as other securities are stated at cost determined by the moving-average method. Costs associated with other securities sold are determined by the moving-average method.

e. Property, plant and equipment (except for leased assets)

Property, plant and equipment are stated at cost. Depreciation is calculated by the straight-line method.

Maintenance, repairs and minor renewals are expensed as incurred. Major renewals and improvements are capitalized.

f. Intangible assets (except for leased assets)

Amortization of intangible assets of the Company and its consolidated subsidiaries is calculated by the straight-line method. The cost of software intended for internal use is amortized using the straight-line method over its estimated useful life (five years).

g. Research and development expenses

Expenses relating to research and development activities are charged to income as incurred.

h. Leases

The Company and its consolidated subsidiaries lease certain machinery and equipment under noncancelable leases referred to as finance leases.

Depreciation of leased assets is computed by the straight-line method over the respective lease terms.

i. Derivatives and hedge accounting

The Company and its consolidated subsidiaries state derivative financial instruments at fair value and recognize any changes in fair value as gains or losses unless the derivatives are being utilized for hedging purposes.

If the derivatives meet certain hedging criteria, the Company and its consolidated subsidiaries defer recognition of gains or losses resulting from changes in the fair values of the derivatives positions until the related losses or gains on the hedged items are recognized.

In cases where forward foreign exchange contracts used as hedges meet certain hedging criteria, the existing foreign currency receivables or payables are translated at their respective contract rates.

In addition, if interest rate swap contracts meet certain hedging criteria, the net amount to be paid or received under these swap contracts is added to or deducted from the interest on the assets or liabilities for which the swap contracts were executed.

The following summarizes hedging derivative financial instruments used by the Group and items hedged:

Hedging instruments	Items hedged
Forward foreign exchange contracts	Foreign currency receivables and payables
Interest rate swap contracts	Interest on loans
Currency swap contracts	Foreign currency loans

j. Allowance for doubtful accounts

The allowance for doubtful accounts is provided in an amount sufficient to cover probable losses on collection.

It consists of the estimated uncollectible amounts with respect to identified doubtful accounts and an amount calculated by a formula based on actual collection losses incurred in the past with respect to the remaining receivables.

k. Retirement benefit plans

The net defined benefit liability and net defined benefit asset have been recorded mainly at the amount calculated based on the retirement benefit obligation and the fair value of the pension plan assets as of the balance sheet date.

The retirement benefit obligation for employees is attributed to each period mainly by the straight-line method over the estimated years of service of the eligible employees.

Actuarial gain or loss is amortized by the straight-line method over a certain number of years (10 to 13 years), which are shorter than the average remaining years of service of the employees.

Prior service cost is recognized as incurred or is amortized by the straight-line method over a certain number of years (10 years), which is shorter than the average remaining years of service of the employees.

Unrecognized actuarial gain or loss and unrecognized prior service cost are recognized as remeasurements of defined benefit plans in accumulated other comprehensive income after adjustment for tax effects.

l. Accrued directors' bonuses

The Company and its consolidated subsidiaries provided for the accrual of the estimated amount of directors' bonuses at the end of the year.

m. Accrued directors' and corporate auditors' retirement benefits

Certain domestic consolidated subsidiaries accrue liabilities to secure the aggregate amount payable for directors' and corporate auditors' retirement benefits, pursuant to the internal regulations.

n. Provision for repairs

Provision for repairs of production facilities at plants is recorded based on estimated expense at the end of the year.

o. Provision for environmental measures

Provision for environmental measures is recorded based on estimated expense at the end of the year.

p. Accounting method of significant deferred assets

Stock issuance expenses and bond issuance costs are accounted for as expenses in full amount when incurred.

q. Amounts per share of common stock

The computation of earnings per share is based on the weighted average number of shares of common stock outstanding during each year.

Cash dividends per share represent the actual amount applicable to each respective year.

r. Amortization of goodwill

Goodwill arising from the difference between the acquisition costs and the value of the underlying net assets of acquired entities at the date of acquisition is amortized over periods not exceeding 20 years on a straight-line basis. Any immaterial amounts are fully recognized as expenses as incurred.

s. Cash and cash equivalents

In preparing the consolidated statements of cash flows, cash on hand, readily-available deposits and short-term highly liquid investments with maturities not in excess of three months from the date of purchase are considered cash and cash equivalents.

t. Consolidated taxation system

The Company and certain of its subsidiaries have adopted the consolidated taxation system, with the Company registered as the consolidated taxation parent company.

u. Consumption taxes

Transactions subject to consumption taxes are recorded in amounts exclusive of consumption taxes.

3. Accounting changes

a. Changes in accounting principles

Amendment to "Implementation Guidance on Tax Effect Accounting"

"Implementation Guidance on Tax Effect Accounting" (the Accounting Standards Board of Japan (ASBJ) Guidance No. 28, February 16, 2018) was amended and applied from the beginning of the current fiscal year. Regarding taxable temporary differences related to subsidiary shares, etc., we have switched to the method of recording deferred tax liabilities except in cases where there is no intention to sell said shares in the foreseeable future.

As a result, in the consolidated balance sheets as of March 31, 2018, deferred tax liabilities decreased ¥618 million, retained earnings increased ¥462 million, and non-controlling interests increased ¥156 million.

In addition, net assets per share as of March 31, 2018 increased ¥2.32.

b. Accounting standards issued but not yet adopted

The company and its domestic consolidated subsidiaries

- "Accounting Standard for Revenue Recognition" (ASBJ Statement No. 29, March 30, 2018)
- "Implementation Guidance on Accounting Standard for Revenue Recognition" (ASBJ Guidance No. 30, March 30, 2018)

(1) Overview

The International Accounting Standards Board (IASB) and the Financial Accounting Standards Board (FASB) worked together to develop a comprehensive accounting standard for revenue recognition. In May 2014, they announced the line item "Revenue from Contracts with Customers," which the IASB has named IFRS 15 and the FASB has named Topic 606. IFRS 15 is to be adopted from fiscal year beginning on or after January 1, 2018, and Topic 606 is to be adopted from fiscal year beginning on or after December 15, 2017. In light of this, ASBJ has developed a comprehensive accounting standard for revenue recognition and announced it along with guidance on implementation.

Following the ASBJ's development of an accounting standard for revenue recognition, the Company's basic policy has been to first adopt the basic principles of IFRS 15 with an eye toward compatibility when comparing financial statements, which is one advantage of attempting to be consistent with IFRS 15. From there, the Company then decides on accounting standards. In addition, if there are items that require attention be paid to practices in Japan to date, the Company will add substitute treatment as long as compatibility for comparisons is not hindered.

(2) Planned adoption date

To be applied from the beginning of the fiscal year ending March 31,2020

(3) Impact of the adoption of the accounting standard

The impact on consolidated financial statements of the adoption of the accounting standard and implementation guidance for revenue recognition is still being evaluated at present.

Overseas consolidated subsidiaries
• IFRS "16 Leases"

(1) Overview
In principle, the standard requires lessees to recognize assets and liabilities on the balance sheet for all leases.

(2) Planned adoption date
To be applied from the beginning of the fiscal year ending March 31,2020

(3) Impact of the adoption of the accounting standard
The impact on consolidated financial statements of the adoption of IFRS 16 Leases is still being evaluated at present.

c. Changes in presentation

Adoption of "Partial Amendments to Accounting Standard for Tax Effect Accounting"
"Partial Amendments to Accounting Standard for Tax Effect Accounting" (ASBJ Statement No. 28, February 16, 2018) have been applied, effective from the beginning of the current fiscal year. Accordingly, deferred tax assets are presented under investments and other assets, and deferred tax liabilities are presented under non-current liabilities.

As a result, in the consolidated balance sheet for the previous fiscal year, deferred tax assets under current assets have decreased ¥18,226 million, while deferred tax assets under investments and other assets have increased ¥5,431 million. In addition, "Other" under current liabilities has decreased ¥93 million, while deferred tax liabilities under non-current liabilities have decreased ¥12,702 million. Deferred tax assets and deferred tax liabilities for the same taxable entity are shown to be offset each other out, therefore total assets have declined ¥12,795 million when compared to before the accounting changes.

Matters provided in explanatory Note 8 "Accounting Standard for Tax Effect Accounting" (excluding the total amount of valuation allowances) and Note 9 prescribed in paragraphs 3-5 of the "Partial Amendments to Accounting Standard for Tax Effect Accounting" have been added to the footnotes concerning tax effect accounting. However, matters pertaining to the previous fiscal year have not been included in accordance with the transitional handling prescribed in paragraph 7 of the "Partial Amendments to Accounting Standard for Tax Effect Accounting".

4. U.S. dollar amounts

The translation of yen amounts into U.S. dollar amounts is included solely for the convenience of readers, using ¥110.99=US$1.00, the approximate rate of exchange in effect on March 31, 2019. The translation should not be construed as a representation that yen amounts have been, or could in the future be, converted into U.S. dollars at the above or any other rate.

5. Inventories

Inventories at March 31, 2019 and 2018 were as follows:

	Millions of yen		Thousands of U.S.dollars
	2019/3	2018/3	**2019/3**
Finished goods	**¥206,544**	¥183,195	**$1,860,924**
Work in process	**7,492**	6,421	**67,502**
Raw materials and supplies	**87,854**	84,726	**791,549**
Total	**¥301,890**	¥274,342	**$2,719,975**

6. Retirement benefit plans

The Company and most of its consolidated subsidiaries have either funded or unfunded defined benefit plans and/or defined contribution plans. In addition, some overseas consolidated subsidiaries apply International Financial Reporting Standards for the recognition, measurement, and disclosure of employees' retirement benefits.

In addition, the Company and certain of its consolidated subsidiaries have set up an employees' retirement benefit trust.

Under these plans, all eligible employees are entitled to certain benefits based on their abilities, occupational roles, work performances, length of service and certain other factors.

The liabilities and expenses for severance and retirement benefits are determined based on the amounts calculated actuarially under certain assumptions.

The changes in the retirement benefit obligation during the year ended March 31, 2019 and 2018 were as follows:
Movements in defined benefit obligation

	Millions of yen		Thousands of U.S.dollars
	2019/3	2018/3	**2019/3**
Defined benefit obligation as of April 1	**¥180,839**	¥188,204	**$1,629,327**
Service cost	**5,222**	5,398	**47,049**
Interest cost	**384**	417	**3,460**
Actuarial gains/losses	**713**	(885)	**6,424**
Past service cost	**(16)**	(155)	**(144)**
Benefits paid	**(10,673)**	(11,170)	**(96,162)**
Decrease due to transfer to defined contribution plan	**—**	(2,373)	**—**
Others	**(368)**	1,403	**(3,316)**
Defined benefit obligation as of March 31	**¥176,101**	¥180,839	**$1,586,638**

Movements in plan assets

	Millions of yen		Thousands of U.S.dollars
	2019/3	2018/3	**2019/3**
Plan assets as of April 1	**¥167,168**	¥164,107	**$1,506,154**
Expected return on plan assets	**3,295**	3,314	**29,687**
Actuarial gains/losses	**(2,373)**	4,211	**(21,380)**
Employer contributions	**1,922**	5,078	**17,317**
Benefits paid	**(7,504)**	(7,564)	**(67,610)**
Decrease due to transfer to defined contribution plan	**—**	(2,376)	**—**
Others	**(181)**	398	**(1,631)**
Plan asset as of March 31	**¥162,327**	¥167,168	**$1,462,537**

Funded status of the pension plans

	Millions of yen		Thousands of U.S.dollars
	2019/3	2018/3	**2019/3**
Funded retirement benefit obligation	**¥131,752**	¥136,451	**$1,187,062**
Plan assets at fair value	**(162,327)**	(167,168)	**(1,462,537)**
	(30,575)	(30,717)	**(275,475)**
Unfunded retirement benefit obligation	**44,350**	44,388	**399,585**
Net liability for retirement benefits in the balance sheet	**13,775**	13,671	**124,110**
Net defined benefit liability	**56,428**	55,220	**508,406**
Net defined benefit asset	**(42,653)**	(41,549)	**(384,296)**
Net liability for retirement benefits in the balance sheet	**¥13,775**	¥13,671	**$124,110**

Retirement benefit expenses

	Millions of yen		Thousands of U.S.dollars
	2019/3	2018/3	**2019/3**
Service cost	**¥5,222**	¥5,398	**$47,049**
Interest cost	**384**	417	**3,460**
Expected return on plan assets	**(3,295)**	(3,314)	**(29,687)**
Amortization of actuarial gains/loss	**2,012**	2,092	**18,128**
Amortization of past service cost	**1**	5	**9**
Premium severance pay	**432**	580	**3,892**
Total	**¥4,756**	¥5,178	**$42,851**

Regarding the year ended March 31, 2018, extraordinary income of ¥326 million was recorded due to the transition from the defined benefit plan to the defined contribution plan.

Remeasurements of defined benefit plans before tax effect included in other comprehensive income

	Millions of yen		Thousands of U.S.dollars
	2019/3	2018/3	**2019/3**
Past service cost	**¥ 6**	¥ 5	**$ 54**
Actuarial gains/losses	**930**	(6,926)	**8,379**
Total	**¥936**	¥(6,921)	**$8,433**

Remeasurements of defined benefit plans before tax effect included in accumulated other comprehensive income

	Millions of yen		Thousands of U.S.dollars
	2019/3	2018/3	**2019/3**
Unrecognized past service cost	**¥ (52)**	¥ (58)	**$ (469)**
Unrecognized actuarial gains/losses	**7,611**	6,681	**68,574**
Total	**¥7,559**	¥6,623	**$68,105**

Plan assets by category (%)

	2019/3	2018/3
Bonds	**34%**	35%
Stocks	**46%**	46%
Cash and deposits	**1%**	2%
Other	**19%**	17%
Total	**100%**	100%

A retirement benefit trust set up for the corporate pension plan accounted for 21% of total plan assets at March 31, 2019 and 2018.

Discount rate and rate of expected return on the pension plan assets

	2019/3	2018/3
Discount rate	**Principally 0.0%**	Principally 0.1%
Rate of expected return on the pension plan assets	**Principally 2.2%**	Principally 2.2%
Rate of estimated future salary increases	**Principally 1.0-5.0%**	Principally 1.0-5.0%

Expenses for defined contribution plans

	Millions of yen		Thousands of U.S.dollars
	2019/3	2018/3	**2019/3**
Total	**¥623**	¥525	**$5,613**

7. Loans and bonds

(1) Loans payable breakdown

	Millions of yen		Thousands of U.S.dollars
	2019/3	2018/3	**2019/3**
Short-term loans payable (0.80%)	**¥ 92,733**	¥ 94,348	**$ 835,508**
Current portion of long-term loans payable (0.87%)	**57,571**	24,834	**518,704**
Current portion of lease obligations	**222**	213	**2,000**
Long-term loans payable due in 2021—2029 (0.97%)	**254,850**	274,099	**2,296,153**
Long-term lease obligations due in 2021—2028	**2,803**	2,874	**25,255**
Commercial papers (△0.01%)	**10,000**	20,000	**90,098**
	¥418,179	¥416,368	**$3,767,718**

The aforementioned interest rate is an average, shown as the weighted average interest rate on the outstanding balance as of March 31, 2019.

The average interest rate for lease obligations is omitted because lease obligations are recorded on the balance sheet in an amount that includes the equivalent in interest, which is included in the total lease amount:

Maturities of Long-term loans payable due within 5 years:

Year ending March 31,	Millions of yen	Thousands of U.S.dollars
2021	**¥42,450**	**$382,467**
2022	**43,620**	**393,008**
2023	**47,589**	**428,768**
2024	**41,717**	**375,863**

Maturities of lease obligations due within 5 years:

Year ending March 31,	Millions of yen	Thousands of U.S.dollars
2021	**¥243**	**$2,189**
2022	**534**	**4,811**
2023	**194**	**1,748**
2024	**206**	**1,856**

(2) Bonds payable breakdown

	Millions of yen		Thousands of U.S.dollars
	2019/3	2018/3	**2019/3**
1.246% bonds due in 2020 (*1)	**¥10,000**	¥10,000	**$ 90,098**
1.354% bonds due in 2021 (*1)	**10,000**	10,000	**90,098**
0.682% bonds due in 2018 (*1)	**—**	15,000	**—**
0.260% bonds due in 2024 (*1)	**5,000**	5,000	**45,049**
0.370% bonds due in 2027 (*1)	**5,000**	5,000	**45,049**
0.260% bonds due in 2025 (*1)	**10,000**	—	**90,098**
0.390% bonds due in 2028 (*1)	**15,000**	—	**135,148**
0.900% bonds due in 2038 (*1)	**10,000**	—	**90,098**
0.49% bonds due in 2021 (*2)	**432**	574	**3,892**
0.07% bonds due in 2024 (*3)	**360**	430	**3,244**
0.31% bonds due in 2024 (*3)	**356**	428	**3,207**
0.07% bonds due in 2024 (*3)	**360**	430	**3,244**
0.31% bonds due in 2024 (*3)	**356**	428	**3,207**
	¥66,864	¥47,290	**$602,432**

*1 Mitsui Chemicals,Inc
*2 Mitsui Chemicals Tohcello, Inc.
*3 ARRK Corporation

Maturities of bonds payable within 5 years:

Year ending March 31,	Millions of yen	Thousands of U.S.dollars
2020	**¥ 426**	**$ 3,838**
2021	**10,426**	**93,936**
2022	**10,432**	**93,990**
2023	**284**	**2,559**
2024	**296**	**2,667**

8. Contingent liabilities

Contingent liabilities at March 31, 2019 and 2018 were as follows:

	Millions of yen		Thousands of U.S.dollars
	2019/3	2018/3	**2019/3**
As endorser of trade notes discounted	**¥ 140**	¥ 180	**$ 1,261**
As guarantor of indebtedness, principally of non-consolidated subsidiaries and affiliates	**54,860**	72,852	**494,279**

Notes to Consolidated Financial Statements

9. Research and development expenses

Research and development expenses for the years ended March 31, 2019 and 2018 were as follows:

	Millions of yen		Thousands of U.S.dollars
	2019/3	2018/3	**2019/3**
Research and development expenses	**¥35,796**	¥33,377	**$322,516**

10. Impairment loss

The Group categorizes its business assets in use based on Group companies, business divisions, or quasi-units. Assets that are to be disposed of due to business withdrawal or other reasons are assessed on an individual basis. Idle properties, which are not in use, are also assessed on an individual basis.

Year ended March 31, 2019

Location		Major use	Asset category	Millions of yen	Thousands of U.S.dollars	Remarks *
Kamisu City, Ibaraki Prefecture		Factory land	Land	**¥655**	**$5,901**	Idle properties
Others	8 items	Production,etc.	Machinery, equipment and vehicles, intangible assets-others, others	**¥686**	**$6,181**	Business assets in use
	3 items	Production,etc.	Machinery, equipment and vehicles, construction in progress, others	**¥113**	**$1,018**	Idle properties
Total				**¥1,454**	**$13,100**	

For business assets in use, the book values where the recoverable amount was lower than said value due to a markedly worse operating environment were reduced to the recoverable amount. The amount that was written down is an extraordinary loss and recorded as an impairment loss (¥686 million). The impairment loss comprises ¥318 million for machinery and vehicles, ¥284 million for intangible assets-others, and ¥84 million for others. Furthermore, the value in use was used as the recoverable amount in measuring impairment loss, and the value in use was evaluated as being zero.

As for idle properties, because there are no specific plans for use in the future, the book values of properties for which the recoverable amount was lower than said value were reduced to the recoverable amount. The amount that was written down is an extraordinary loss and recorded as an impairment loss (¥768 million). The impairment loss comprises ¥655 million for land, ¥57 million for machinery and vehicles, ¥38 million for construction in progress and ¥18 million for others. Furthermore, the net sales price or value was used as the recoverable amount in measuring impairment loss, which is mainly calculated from estimated sales price.

Year ended March 31, 2018

Location		Major use	Asset category	Millions of yen	Thousands of U.S.dollars	Remarks *
Dental materials business (Europe, etc)		Others	Goodwill, intangible assets, others	¥14,350	$135,072	Business assets in use
Others	6 items	Production, etc.	Machinery and vehicles, goodwill, others	¥ 549	$ 5,168	Business assets in use
	5 items	Production, etc.	Buildings and structures, others	¥ 96	$ 904	Idle properties
	1 item	Welfare facilities	Buildings and structures, others	¥ 17	$ 160	Idle properties
Total				¥15,012	$141,303	

* Business assets in use comprised ¥6,503 million for goodwill, ¥6,211 million for customer-related intangible assets, and ¥1,636 million for trademarks, respectively.

Business assets in use outside of the dental materials business comprised ¥237 million for machinery and vehicles, ¥136 million for goodwill, and ¥176 million for others, respectively.

Idle properties comprised ¥97 million for buildings and structures and ¥16 million for others, respectively.

11. Loss on fire

Loss on fire includes expenses related to reconstruction following the fire that occurred at the Osaka Works in June 2018.

12. Shareholders' equity

(1) The type and total number of outstanding shares, types and number of treasury shares

	Thousands of shares			
	Number of shares at April 1, 2018	Increase	Decrease	Number of shares at March 31, 2019
Shares of common stock issued and outstanding				
Common stock	**204,455**	**55**	**—**	**204,510**
Total	**204,455**	**55**	**—**	**204,510**
Treasury stock				
Common stock	**5,767**	**3,688**	**2**	**9,453**
Total	**5,767**	**3,688**	**2**	**9,453**

Notes:
1 The increase of 55 thousands shares in common stock issued and outstanding was due to an issuance of transfer-restricted shares.
2 The increase of 3,688 thousands shares in treasury stock was due to an increase of 11 thousands shares through purchases of odd lots and an increase of 3,677 thousands shares through treasury stock acquisitions by resolution of the Board of Directors.
3 The decrease of 2 thousands shares in treasury stock was due to sales of odd lots.

(2) Dividends

Under the Corporate Act of Japan (the "Act"), the amount paid for new shares is required to be accounted for as common stock, although a company may account for the amount not exceeding one-half of the price of the new shares as additional paid-in capital, which is included in capital surplus.

The Act provides that an amount equal to 10% of distribution from surplus shall be appropriated and set aside as legal earnings reserve or additional paid-in capital, until the total amount of legal earnings reserve and additional paid-in capital equals 25% of common stock. Legal earnings reserve and additional paid-in capital may be used to eliminate or reduce a deficit or may be transferred to common stock by resolution of the shareholders' meeting. The Act also stipulates that the amount of any such excess is available for appropriations by resolution of the shareholders. Legal earnings reserve is included in retained earnings in the accompanying consolidated financial statements.

The maximum amount that the Company can distribute as dividends is calculated based on the non-consolidated financial statements of the Company in accordance with the Act.

Appropriations are not accrued in the financial statements for the period to which they relate, but are recorded in the subsequent accounting period when the shareholders' approval has been obtained. Retained earnings at March 31, 2019, include amounts representing the year-end cash dividends approved at the shareholders' meeting held on June 25, 2019.

	Millions of yen	Thousands of U.S.dollars
Cash dividends of ¥50 ($0.45) per share	**¥9,753**	**$87,873**

Notes to Consolidated Financial Statements

13. Consolidated statements of comprehensive income

Reclassification adjustments and tax effects for components of other comprehensive income (loss) for the year ended March 31, 2019 and 2018 were as follows:

	Millions of yen		Thousands of U.S.dollars
	2019/3	2018/3	**2019/3**
Valuation difference on available-for-sale securities:			
Amount arising during the year	**¥(5,443)**	¥9,320	**$(49,040)**
Reclassification adjustment to profit or loss	**(2,284)**	(215)	**(20,578)**
Amont before income tax effect	**(7,727)**	9,105	**(69,618)**
Income tax effect	**2,146**	(2,700)	**19,334**
Total	**(5,581)**	6,405	**(50,284)**
Deferred gains (losses) on hedges:			
Amount arising during the year	**5**	(8)	**45**
Adjustments of acquisition cost for assets	**—**	—	**—**
Amont before income tax effect	**5**	(8)	**45**
Income tax effect	**(1)**	3	**(9)**
Total	**4**	(5)	**36**
Foreign currency translation adjustments:			
Amount arising during the year	**1,242**	(3,079)	**11,190**
Reclassification adjustment to profit or loss	**390**	768	**3,514**
Total	**1,632**	(2,311)	**14,704**
Remeasurements of defined benefit plans:			
Amount arising during the year	**(2,900)**	4,795	**(26,128)**
Reclassification adjustment to profit or loss	**1,964**	2,126	**17,695**
Amont before income tax effect	**(936)**	6,921	**(8,433)**
Income tax effect	**(33)**	54	**(298)**
Total	**(969)**	6,975	**(8,731)**
Share of other comprehensive income (loss) of entities accounted for using equity method:			
Amount arising during the year	**(2,231)**	3,177	**(20,101)**
Reclassification adjustment to profit or loss	**(152)**	(128)	**(1,369)**
Total	**(2,383)**	3,049	**(21,470)**
Total other comprehensive income (loss)	**¥(7,297)**	¥14,113	**$(65,745)**

14. Supplementary cash flow information

(1) Cash and cash equivalents in the consolidated statement of cash flows for the years ended March 31, 2019 and 2018 which are reconciled to cash and deposits in the consolidated balance sheets are as follows:

	Millions of yen		Thousands of U.S.dollars
	2019/3	2018/3	**2019/3**
Cash and deposits	**¥111,056**	¥80,209	**$ 1,000,595**
Long-term time deposits recorded under "Other" of investments and other assets	**23**	1,609	**207**
Deposit due over 3months	**(1,240)**	(2,990)	**(11,172)**
Total	**¥109,839**	¥78,828	**$ 989,630**

(2) Main breakdown of assets and liabilities of companies newly becoming consolidated subsidiaries upon acquisition of shares.

Current fiscal year (from April 1, 2018 to March 31, 2019)

Not applicable.

Previous fiscal year (from April 1, 2017 to March 31, 2018)

Breakdown of assets and liabilities at the time of consolidation due to newly consolidating ARRK Corporation through the acquisition of shares and the acquisition price.

The relationship between the amount and expenditure for acquisition (net) is as follows:

Year ended March 31, 2018	Millions of yen
Current assets	¥31,089
Non-current assets	19,591
Goodwill	5,241
Current liabilities	(10,455)
Non-current liabilities	(6,898)
Non-controlling interests	(8,435)
Business transfer price	¥30,133
Cash and cash equivalents	(13,783)
Purchase of shares of subsidiaries resulting	¥16,350

15. Leases

Obligations under noncancelable operating leases at March 31, 2019 and 2018, were as follows:
Future minimum lease payments:

	Millions of yen		Thousands of U.S.dollars
	2019/3	2018/3	**2019/3**
Due within one year	**¥ 901**	¥ 828	**$ 8,118**
Due after one year	**2,503**	2,760	**22,551**
Total	**¥3,404**	¥3,588	**$30,669**

16. Financial instruments

(1) Status of financial instruments

1. Management policy

In light of plans for capital investment, the Group raises the funds it requires primarily through bank loans and bonds issuance. The Group invests temporary surplus funds in financial assets that have high levels of safety and liquidity. Further, the Group raises short-term working capital through bank loans and commercial paper issuance. The Group also utilizes derivative financial instruments to hedge various risks as described in detail below and does not enter into derivatives for trading or speculative purposes.

2. Details of financial instruments and associated risk

The trade notes and accounts receivable are exposed to credit risk of customers. In addition, foreign-currency operating receivables used to carry out overseas business operations are exposed to foreign currency exchange risk. However, foreign exchange forward contracts are used to hedge against such risk for a certain portion of this amount, excluding the amount that falls within the scope of the balance of trade notes and accounts payable denominated in the same foreign currencies as said foreign exchange forward contracts.

Short-term investment securities and investment securities, other securities, primarily the shares of companies with which the Group has operational relationships, are exposed to stock market fluctuation risk.

Almost all trade notes and accounts payable have payment due dates within three months. Funds denominated in foreign currencies are exposed to foreign currency exchange fluctuation risk. Foreign exchange forward contracts are used to hedge against such risks for a certain portion of said funds, excluding the amount that falls within the scope of the balance of trade notes and accounts receivable denominated in the same foreign currencies as said funds.

Loans payable and corporate bonds are primarily for fund raising related to capital investment, with a maximum maturity of twenty years after the balance sheet date. Certain loans payable are exposed to foreign currency exchange risk and interest rate fluctuation risk, and derivative transactions such as foreign currency swaps and interest rate swaps are used to hedge these risks.

Derivative transactions such as foreign exchange forward contracts and foreign currency swaps are used in order to hedge foreign currency exchange risk associated with operating receivables and payables as well as loans payable denominated in foreign currencies and interest rate swaps are used for the purpose of hedging interest rate risk associated with bank loans.

In addition, hedging instruments and hedged items, hedging policy, and effectiveness of hedge transactions are described in "2. Significant accounting policies, i. Derivatives and hedge accounting."

3. Risk management

1) Credit risk management (risks of default of debtors)

To minimize the credit risk relating to operating receivables and long-term loans receivable, the Group performs due date controls and outstanding balance controls for each customer in accordance with internal customer credit management rules, and regularly screens customers' credit status.

Management of the Company believes that there is no significant risk of default by the counterparties to derivative transactions, as the Company and its consolidated subsidiaries only conduct transactions with high credit-rated financial institutions.

2) Market risk management (risks of exchange and interest rate fluctuations)

The Company and its consolidated subsidiaries utilize foreign exchange forward contracts and foreign currency swaps to hedge foreign currency exchange risk associated with operating receivables and payables as well as bank loans denominated in foreign currencies. Further, the Company and its consolidated subsidiaries also utilize interest rate swaps for the purpose of hedging interest rate fluctuation risk associated with loans payable.

The fair value of short-term investment securities and investment securities together with financial conditions of investees (trading partners) are periodically monitored. The possession of other securities other than held-to-maturity debt securities are reviewed continuously, taking market conditions and trade relations with the issuers into consideration.

Derivative transactions are authorized by the responsible director. Transactions are executed and managed by the financial section. The results of each transaction are reported by the financial section semi-annually at the Management Meeting. Derivative transactions entered into by consolidated subsidiaries are executed and managed in accordance with the management and other criteria for derivative transactions for each company.

3) Liquidity risk management (non-performance risk on payment due date)

The Company's finance department formulates and updates cash flow plans in a timely manner based on each department's estimated cash flow and manages liquidity risks through such measures as maintaining an accessible supply of cash. The cash flows of consolidated subsidiaries are managed in the same manner as those of the Company.

4. Supplemental explanation regarding fair value of financial instruments

Fair value of financial instruments is measured based on the quoted market price, if available, or reasonably assessed value if a quoted market price is not available. Fair value of financial instruments for which a quoted market price is not available is calculated based on certain assumptions, and the estimated fair value might differ if different assumptions are used. In addition, the contract amount of the derivative transactions described below in "18. Derivatives" does not represent the market risk of the derivative transactions.

(2) Fair value of financial instruments

The carrying value on the consolidated balance sheet, fair value, and differences as of March 31, 2019 and 2018 are as follows. In addition, financial instruments, for which is extremely difficult to measure the fair value, are not included. (Please see Note 2)

	Millions of yen		
Year ended March 31, 2019	Carrying value	Fair value	Differences
Assets			
(1) Cash and deposits	**¥111,056**	**¥111,056**	**¥ —**
(2) Notes and accounts receivable-trade	**310,591**	**310,591**	**—**
(3) Short-term investment securities and investment securities, other securities	**48,970**	**48,970**	**—**
Total	**470,617**	**470,617**	**—**
Liabilities			
(1) Notes and accounts payable-trade	**163,908**	**163,908**	**—**
(2) Short-term bank loans payable	**92,733**	**92,733**	**—**
(3) Commercial papers	**10,000**	**10,000**	**—**
(4) Bonds payable (*1)	**66,864**	**67,363**	**499**
(5) Long-term loans payable (*1)	**312,421**	**320,190**	**7,769**
Total	**645,926**	**654,194**	**8,268**
Derivative transactions (*2)	**¥ 2**	**¥ 2**	**¥ —**

*1 This amounts includes current portion of long-term loans payable and bonds payable respectively.
*2 Derivative assets and (liabilities) are on net basis.

Year ended March 31, 2019	Thousands of U.S.dollars Carrying value	Fair value	Differences
Assets			
(1) Cash and deposits	**$ 1,000,595**	**$ 1,000,595**	**$ —**
(2) Notes and accounts receivable-trade	**2,798,369**	**2,798,369**	**—**
(3) Short-term investment securities and investment securities, other securities	**441,211**	**441,211**	**—**
Total	**4,240,175**	**4,240,175**	**—**
Liabilities			
(1) Notes and accounts payable-trade	**1,476,782**	**1,476,782**	**—**
(2) Short-term bank loans payable	**835,508**	**835,508**	**—**
(3) Commercial papers	**90,098**	**90,098**	**—**
(4) Bonds payable (*1)	**602,432**	**606,929**	**4,495**
(5) Long-term loans payable (*1)	**2,814,857**	**2,884,854**	**69,997**
Total	**5,819,678**	**5,894,171**	**74,492**
Derivative transactions (*2)	**$ 18**	**$ 18**	**$ —**

*1 This amounts includes current portion of long-term loans payable and bonds payable respectively.
*2 Derivative assets and (liabilities) are on net basis.

Year ended March 31, 2018	Millions of yen Carrying value	Fair value	Differences
Assets			
(1) Cash and deposits	¥ 80,209	¥ 80,209	¥ —
(2) Notes and accounts receivable-trade	306,899	306,899	—
(3) Short-term investment securities and investment securities, other securities	57,628	57,628	—
Total	444,736	444,736	—
Liabilities			
(1) Notes and accounts payable-trade	162,179	162,179	—
(2) Short-term bank loans payable	94,348	94,348	—
(3) Commercial papers	20,000	20,000	—
(4) Bonds payable (*1)	47,290	47,893	603
(5) Long-term loans payable (*1)	298,933	306,860	7,927
Total	622,750	631,280	8,530
Derivative transactions (*2)	¥ (25)	¥ (25)	¥ —

*1 This amounts includes current portion of long-term loans payable and bonds payable respectively.
*2 Derivative assets and (liabilities) are on net basis.

Note 1. Fair value measurement of financial instruments and items relating to short-term investment securities and derivative transactions.

Assets
1) Cash and deposits, and 2) Notes and accounts receivable-trade
The relevant book values are used, as the carrying amount approximates fair value due to the short maturity of these instruments.
3) Short-term investment securities and investment securities
The fair value of equity securities equals quoted market price, if available. The fair value of debt securities equals quoted market price or provided price by financial institutions. Moreover, investment securities for different holding purposes are described in "16. Securities".

Liabilities
1) Notes and accounts payable-trade, 2) Short-term bank loans payable, and 3) Commercial papers
The relevant book values are used, as the carrying amount approximates fair value due to the short maturity of these instruments.
4) Bonds payable
The fair value of bonds payable equals the quoted market price, if available. If the market prices of bonds are not available, fair value is calculated based on the present value of the total amount of principal and interest, discounted by the rate dete
5) Long-term loans payable
The fair value of long-term loans payable is calculated by applying a discount rate to the total of principal and interest. The discount rate is based on the assumed interest rate if a similar new loan was entered into. A portion of floating rate long-term loans payable that is subject to special treatment in the form of interest rate swaps (described in "17. Derivatives") is calculated by discounting the total amount of principal and interest —which is handled together with said interest-rate swaps— against assumed interest to be paid when new loans of the same type are undertaken.

Derivative transactions
Contract amount, fair value, unrealized gain or loss, and others are described in "17. Derivatives".

Notes to Consolidated Financial Statements

Note 2. Financial instruments of which the fair value is extremely difficult to measure.

Year ended March 31, 2019	Millions of yen	Thousands of U.S.dollars
Unlisted equity securities	**¥15,170**	**$136,679**
Unlisted preferred securities	**9,596**	**86,458**

Year ended March 31, 2018	Millions of yen
Unlisted equity securities	¥13,065
Unlisted preferred securities	8,000

The above are not included in "(3) Short-term investment securities and investment securities", because there is no market value and the future cash flows cannot be estimated, as well as the fair value is extremely difficult to measure.

Note 3. The redemption schedule for monetary claims and held-to-maturity debt securities with maturities date subsequent to the consolidated balance sheet date.

	Millions of yen			
Year ended March 31, 2019	Due within one year	Due over one year but within five years	Due over five years but within ten years	Due over ten years
Cash and deposits	**¥111,056**	**¥—**	**¥—**	**¥—**
Notes and accounts receivable-trade	**310,591**	**—**	**—**	**—**
Total	**¥421,647**	**¥—**	**¥—**	**¥—**

	Thousands of U.S.dollars			
Year ended March 31, 2019	Due within one year	Due over one year but within five years	Due over five years but within ten years	Due over ten years
Cash and deposits	**$1,000,595**	**$—**	**$—**	**$—**
Notes and accounts receivable-trade	**2,798,369**	**—**	**—**	**—**
Total	**$3,798,964**	**$—**	**$—**	**$—**

	Millions of yen			
Year ended March 31, 2018	Due within one year	Due over one year but within five years	Due over five years but within ten years	Due over ten years
Cash and deposits	¥ 80,209	¥—	¥—	¥—
Notes and accounts receivable-trade	306,899	—	—	—
Total	¥387,108	¥—	¥—	¥—

Note 4. The redemption schedule for bonds payable and long-term loans payable subsequent to the consolidated balance sheet date.

	Millions of yen					
Year ended March 31, 2019	Due within one year	Due over one year but within two years	Due over two years but within three years	Due over three years but within four years	Due over four years but within five years	Due over five years
Short-term bank loans payable	**¥ 92,733**	**¥ —**	**¥ —**	**¥ —**	**¥ —**	**¥ —**
Commercial papers	**10,000**	**—**	**—**	**—**	**—**	**—**
Bonds payable	**426**	**10,426**	**10,432**	**284**	**296**	**45,000**
Long-term loans payable	**57,571**	**42,450**	**43,620**	**47,589**	**41,717**	**79,474**
Total	**¥160,730**	**¥52,876**	**¥54,052**	**¥47,873**	**¥42,013**	**¥124,474**

	Thousands of U.S.dollars					
Year ended March 31, 2019	Due within one year	Due over one year but within two years	Due over two years but within three years	Due over three years but within four years	Due over four years but within five years	Due over five years
Short-term bank loans payable	**$ 835,508**	**$ —**	**$ —**	**$ —**	**$ —**	**$ —**
Commercial papers	**90,098**	**—**	**—**	**—**	**—**	**—**
Bonds payable	**3,838**	**93,936**	**93,990**	**2,559**	**2,667**	**405,442**
Long-term loans payable	**518,704**	**382,467**	**393,008**	**428,768**	**375,863**	**716,046**
Total	**$1,448,148**	**$476,403**	**$486,998**	**$431,327**	**$378,530**	**$1,121,488**

Year ended March 31, 2018	Millions of yen					
	Due within one year	Due over one year but within two years	Due over two years but within three years	Due over three years but within four years	Due over four years but within five years	Due over five years
Short-term bank loans payable	¥ 94,348	¥ —	¥ —	¥ —	¥ —	¥ —
Commercial papers	20,000	—	—	—	—	—
Bonds payable	15,426	426	10,426	10,432	284	10,296
Long-term loans payable	24,834	57,519	41,978	42,718	41,088	90,796
Total	¥154,608	¥57,945	¥52,404	¥53,150	¥41,372	¥101,092

17. Securities

Information on securities held by the Company and its subsidiaries at March 31, 2019 and 2018 was as follows:

(1) Other securities

Year ended March 31, 2019	Millions of yen			Thousands of U.S.dollars		
	Carrying value	Acquisition cost	Differences	Carrying value	Acquisition cost	Differences
Securities whose carrying value exceeds their acquisition value:						
(1) Equity securities	**¥47,829**	**¥18,306**	**¥29,523**	**$430,931**	**$164,934**	**$265,997**
(2) Others	**5**	**5**	**0**	**45**	**45**	**0**
Securities whoes carrying value does not exceed their acquisition value:						
(1) Equity securities	**1,135**	**1,354**	**(219)**	**10,226**	**12,199**	**(1,973)**
(2) Others	**1**	**1**	**(0)**	**9**	**9**	**(0)**
Total	**¥48,970**	**¥19,666**	**¥29,304**	**$441,211**	**$177,187**	**$264,024**

Note: Unlisted equity securities with carrying value of ¥15,170 million and unlisted preferred securities with carrying value of ¥9,596 million as of March 31, 2019 have no market value and their future cash flows cannot be estimated. Those securities' fair value is extremely difficult to measure and not included in the table above.

Year ended March 31, 2018	Millions of yen		
	Carrying value	Acquisition cost	Differences
Securities whose carrying value exceeds their acquisition value:			
(1) Equity securities	¥56,978	¥19,787	¥37,191
(2) Others	5	5	0
Securities whoes carrying value does not exceed their acquisition value:			
(1) Equity securities	644	829	(185)
(2) Others	1	1	(0)
Total	¥57,628	¥20,622	¥37,006

Note: Unlisted equity securities with carrying value of ¥13,065 million and unlisted preferred securities with carrying value of ¥8,000 million as of March 31, 2018 have no market value and their future cash flows cannot be estimated. Those securities' fair value is extremely difficult to measure and not included in the table above.

(2) Other securities sold during the fiscal year ended March 31, 2019 and 2018

Year ended March 31, 2019	Millions of yen			Thousands of U.S.dollars		
	Sales price	Gain on sales	Loss on sales	Sales price	Gain on sales	Loss on sales
Equity securities	**¥3,050**	**¥2,462**	**¥(13)**	**$27,480**	**$22,182**	**$(117)**
Other	**—**	**—**	**—**	**—**	**—**	**—**
Total	**¥3,050**	**¥2,462**	**¥(13)**	**$27,480**	**$22,182**	**$(117)**

Year ended March 31, 2018	Millions of yen		
	Sales price	Gain on sales	Loss on sales
Equity securities	¥1,461	¥815	¥(1)
Other	—	—	—
Total	¥1,461	¥815	¥(1)

(3) Impairment of investment securities

For the fiscal years ended March 31, 2019 and 2018, the Group recognized impairment losses on investment securities of ¥171million (¥171 million on other marketable securities with no market values) and ¥5,059 million (¥5,059 million on other marketable securities with no market values) respectively.

Regarding loss disposal, typically, when the fair value at the fiscal year end falls 50% or greater compared with the acquisition cost, the loss shall be disposed of, in principle. When said fair value falls between 30% and 50% of the acquisition cost, if the rate of decrease remains at 30% or above for a two-year period prior to the end of the fiscal year-end, or if a significant downturn in performance occurs over an approximately three-year period, it shall be determined that there is no possibility of recovery and loss disposed of.

18. Derivatives

The Company and certain of its subsidiaries had the following derivatives contracts outstanding at March 31, 2019 and 2018.

(1) Derivative transactions to which the Company did not apply hedge accounting

Currency related

Year ended March 31, 2019	Millions of yen				Thousands of U.S.dollars			
	Contract amount	(Contract amount over one year)	Fair value	Unrealized gain (loss)	Contract amount	(Contract amount over one year)	Fair value	Unrealized gain (loss)
Off-market transactions:								
Forward foreign exchange contracts for								
Buying U.S. dollar	**¥699**	**¥—**	**¥5**	**¥5**	**$6,298**	**$—**	**$45**	**$45**
Currency swap transaction for								
Receiving CNY and paying U.S. dollar	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**
Total	**¥699**	**¥—**	**¥5**	**¥5**	**$6,298**	**$—**	**$45**	**$45**

Note: Fair value is based on information provided by financial institutions at the end of the fiscal year.

Year ended March 31, 2018	Millions of yen			
	Contract amount	(Contract amount over one year)	Fair value	Unrealized gain (loss)
Off-market transactions:				
Forward foreign exchange contracts for				
Buying U.S. dollar	¥ 797	¥ —	¥(20)	¥(20)
Currency swap transaction for				
Receiving CNY and paying U.S. dollar	419	—	(3)	(3)
Total	¥1,216	¥ —	¥(23)	¥(23)

Note: Fair value is based on information provided by financial institutions at the end of the fiscal year.

(2) Derivative transactions to which the Company applied hedge accounting

1. Currency related

Year ended March 31, 2019	Millions of yen			Thousands of U.S.dollars		
	Contract amount	(Contract amount over one year)	Fair value	Contract amount	(Contract amount over one year)	Fair value
Principle-based accounting method:						
Forward foreign exchange contracts for						
(1) Selling U.S. dollar (hedged item—loans receivable)	**¥ 178**	**¥—**	**¥(1)**	**$ 1,604**	**$—**	**$ (9)**
(2) Selling Swedish Krona (hedged item—loans receivable)	**358**	**—**	**0**	**3,225**	**—**	**0**
(3) Selling U.S. dollar (hedged item—accounts receivable)	**193**	**—**	**0**	**1,739**	**—**	**0**
(4) Buying U.S. dollar (hedged item—accounts payable-trade)	**357**	**—**	**(3)**	**3,216**	**—**	**(27)**
(5) Buying YEN (hedged item—loans payable)	**90**	**—**	**1**	**811**	**—**	**9**
(6) Buying EUR (hedged item—accounts payable—other)	**65**	**—**	**—**	**586**	**—**	**—**
Alternative method (*):						
Forward foreign exchange contracts for						
(1) Selling U.S. dollar (hedged item—accounts receivables-trade)	**¥ 61**	**¥—**	**(Note 2)**	**$ 550**	**$—**	**(Note 2)**
(2) Buying U.S. dollar (hedged item—accounts payable-trade)	**164**	**—**	**(Note 2)**	**1,477**	**—**	**(Note 2)**
Total	**¥1,466**	**¥—**	**¥(3)**	**$13,208**	**$—**	**$(27)**

* Foreign monetary obligations denominated in foreign currencies for which foreign exchange forward contracts are used to hedge the foreign currency fluctuation are translated at the contracted rate, if the forward contracts qualify for hedge accounting.

Notes:
1. Fair value is based on information provided by financial institutions at the end of the fiscal year.
2. For certain accounts payable-trade, other accounts payable and loans payable denominated in foreign currencies for which foreign exchange forward contracts are used to hedge the foreign currency fluctuations, fair value of derivative financial instrument is included in the hedged accounts receivables-trade or accounts payable-trade.

Year ended March 31, 2018	Millions of yen		
	Contract amount	(Contract amount over one year)	Fair value
Principle-based accounting method:			
Forward foreign exchange contracts for			
(1) Selling U.S. dollar (hedged item—loans receivable)	¥ 170	¥—	¥(1)
(2) Selling Swedish Krona (hedged item—loans receivable)	381	—	(4)
(3) Buying U.S. dollar (hedged item—accounts payable-trade)	778	—	—
(4) Buying YEN (hedged item—loans payable)	181	—	3
Alternative method (*):			
Forward foreign exchange contracts for			
(1) Selling U.S. dollar (hedged item—accounts receivables-trade)	¥ 53	¥—	(Note2)
(2) Buying U.S. dollar (hedged item—accounts payable-trade)	136	—	(Note2)
Total	¥1,699	¥—	¥(2)

* Foreign monetary obligations denominated in foreign currencies for which foreign exchange forward contracts are used to hedge the foreign currency fluctuation are translated at the contracted rate, if the forward contracts qualify for hedge accounting.

Notes:
1. Fair value is based on information provided by financial institutions at the end of the fiscal year.
2. For certain accounts payable-trade, other accounts payable and loans payable denominated in foreign currencies for which foreign exchange forward contracts are used to hedge the foreign currency fluctuations, fair value of derivative financial instrument is included in the hedged accounts receivables-trade or accounts payable-trade.

Notes to Consolidated Financial Statements

2. Interest related

Year ended March 31, 2019	Millions of yen			Thousands of U.S.dollars		
	Contract amount	(Contract amount over one year)	Fair value	Contract amount	(Contract amount over one year)	Fair value
Alternative method:						
Interest swap contracts (hedged item—long-term loans payable)						
Receiving floating rate and paying fixed rate	**¥ 96,429**	**¥69,629**	**(Note)**	**$ 868,808**	**$627,345**	**(Note)**
Currency swap contracts (hedged item—long-term loans payable)						
Receiving floating rate and paying fixed rate	**30,459**	**9,804**	**(Note)**	**274,430**	**88,332**	**(Note)**
Total	**¥126,888**	**¥79,433**	**¥—**	**$ 1,143,238**	**$715,677**	**$—**

Note: For certain long-term loans payable for which interest swap contracts are used to hedge the interest rate fluctuations, fair value of derivative financial instrument is included in accounts payable-trade, other accounts payable and loans payable as hedged.

Year ended March 31, 2018	Millions of yen		
	Contract amount	(Contract amount over one year)	Fair value
Alternative method:			
Interest swap contracts (hedged item—long-term loans payable)			
Receiving floating rate and paying fixed rate	¥100,969	¥ 96,429	(Note)
Currency swap contracts (hedged item—long-term loans payable)			
Receiving floating rate and paying fixed rate	24,915	24,915	(Note)
Total	¥125,884	¥121,344	¥—

Note: For certain long-term loans payable for which interest swap contracts are used to hedge the interest rate fluctuations, fair value of derivative financial instrument is included in accounts payable-trade, other accounts payable and loans payable as hedged.

19. Income taxes

(1) The significant components of the Company and its consolidated subsidiaries' deferred tax assets and liabilities as of March 31, 2019 and 2018 were as follows:

	Millions of yen		Thousands of U.S.dollars
	2019/3	2018/3	**2019/3**
Deferred tax assets:			
Net defined benefit liabilities	**¥ 23,475**	¥ 23,698	**$ 211,506**
Accrued bonuses	**4,447**	4,199	**40,067**
Depreciation	**6,708**	3,932	**60,438**
Accrued enterprise tax	**795**	798	**7,163**
Tax loss carryforwards (*2)	**41,575**	45,206	**374,583**
Provision for repairs	**5,447**	5,298	**49,076**
Unrealized gains on fixed assets	**2,386**	2,505	**21,497**
Loss on valuation of inventories	**2,921**	3,257	**26,318**
Loss on valuation of investment securities	**5,212**	5,928	**46,959**
Impairment loss	**5,173**	7,518	**46,608**
Other	**10,624**	15,779	**95,720**
Subtotal	**108,763**	118,118	**979,935**
Valuation allowance related to tax loss carryforwards	**(35,953)**	—	**(323,930)**
Valuation allowance related to the total of deductible temporary differences	**(33,790)**	—	**(304,442)**
Total valuation allowance (*1)	**(69,743)**	(81,060)	**(628,372)**
Total deferred tax assets	**39,020**	37,058	**351,563**
Deferred tax liabilities:			
Net defined benefit assets	**¥(13,202)**	¥ (12,870)	**$(118,948)**
Gain on contribution of securities to retirement benefit trust	**(3,024)**	(3,147)	**(27,246)**
Net unrealized holding gain on securities	**(7,820)**	(10,187)	**(70,457)**
Deferred gain on real properties	**(240)**	(284)	**(2,162)**
Retained earnings of overseas consolidated subsidiaries, etc.	**(6,650)**	(5,592)	**(59,915)**
Adjustment of book value based on fair value	**(5,368)**	(5,771)	**(48,365)**
Other	**(2,801)**	(1,774)	**(25,236)**
Total deferred tax liabilities	**(39,105)**	(39,625)	**(352,329)**
Net deferred tax assets (liabilities)	**¥ (85)**	¥ (2,567)	**$ (766)**

*1 The valuation allowance decreased mainly because the amount of tax losses carried forward at the parent and consolidated subsidiaries deemed to be recoverable in anticipation of future taxable income was booked as deferred tax assets.

*2 A breakdown of tax loss carryforwards and valuation allowance by expiry date as of March 31,2019 are as follows:

	Millions of yen						
Year ended March 31, 2019	Due within one year	Due over one year but within two years	Due over two years but within three years	Due over three years but within four years	Due over four years but within five years	Due over five years	Total
Tax loss carryforwards (*a)	**¥22,635**	**¥10,149**	**¥451**	**¥1,096**	**¥1,659**	**¥5,585**	**¥41,575**
Valuation allowance	**(18,331)**	**(9,639)**	**(451)**	**(1,096)**	**(1,417)**	**(5,019)**	**(35,953)**
Deferred tax asset	**4,304**	**510**	**—**	**—**	**242**	**566**	**5,622 (*b)**

	Thousands of U.S.dollars						
Year ended March 31, 2019	Due within one year	Due over one year but within two years	Due over two years but within three years	Due over three years but within four years	Due over four years but within five years	Due over five years	Total
Tax loss carryforwards (*a)	**$203,937**	**$91,441**	**$4,063**	**$9,875**	**$14,947**	**$50,320**	**$374,583**
Valuation allowance	**(165,159)**	**(86,846)**	**(4,063)**	**(9,875)**	**(12,767)**	**(45,220)**	**(323,930)**
Deferred tax asset	**38,778**	**4,595**	**—**	**—**	**2,180**	**5,100**	**50,653 (*b)**

*a Tax loss carried forward is multiplied by the statutory effective tax rate.

*b For the tax loss carried forward of ¥41,575 million (the amount multiplied by the statutory effective tax rate), ¥5,622 million was booked as deferred tax assets as we deemed it recoverable in anticipation of future taxable income.

(2) The following table summarizes the significant differences between the statutory tax rate and effective tax rates reflected in the consolidated statement of operations for the years ended March 31, 2019 and 2018:

	2019/3	2018/3
Statutory tax rate	**30.6%**	30.9%
Non-deductible expenses	**0.7**	0.7
Permanently non-deductible items including dividend income	**(0.6)**	(0.8)
Changes in valuation allowance	**(8.0)**	(16.7)
Differences of statutory tax rate in overseas consolidated subsidiaries	**(4.3)**	(1.7)
Goodwill impairment and amortization	**0.2**	2.4
Share of loss (profit) of entities accounted for using equity method	**(3.2)**	(2.7)
Other	**2.4**	4.0
Effective tax rate	**17.8%**	16.1%

20. Segment information

(1) Overview of reportable segments

The reportable segments of the Group comprise those entities for which obtaining separate financial reports is possible and those are subject to regular review by the Board of Directors, which decides upon the distribution of management resources to said segments.

The Group positions segments distinguished by their products and services within its headquarters. Each segment proposes comprehensive domestic and overseas strategies in addition to pursuing business expansion in its respective product and service area.

The four reportable segments (distinguished by products and services) that therefore comprise the Group's operations are: Mobility, Health Care, Food & Packaging and Basic Materials.

Segment		Major Products
Reportable Segments	Mobility	Elastomers, performance compounds, functional polymers and, polypropylene compounds and comprehensive services regarding to the development of automotive and industrial products (Solution business)
	Health Care	Vision care materials, nonwoven fabrics, dental materials and, personal care materials
	Food & Packaging	Coating & engineering materials, performance films and sheets and, agrochemical products
	Basic Materials	Ethylene, propylene, polyethylene, polypropylene, catalysts, phenols, PTA, PET, polyurethane materials and, industrial chemical products
Others	Others	Other related businesses, etc.

(2) Methods to determine net sales, income or loss, sssets, and other items by reportable business segment

The accounting methods by reportable business segment herein are almost tha same as those described under "significant accounting policies." Income by reportable business segment is stated on an operating income basis. Intersegment net sales and transfers are based on the values of transactions undertaken between third parties.

(3) Information concerning net sales, income or loss, assets, and other items for each reportable segment

	Millions of yen						
	Reportable Segment						
Year ended March 31, 2019	Mobility	Healthcare	Food & Packaging	Basic Materials	Total	Others (Note 1)	Sum total
I. Net sales:							
Customers	¥395,365	¥146,598	¥199,435	¥716,524	¥1,457,922	¥24,987	¥1,482,909
Inter-segment	11,652	2,783	1,349	75,760	91,544	58,049	149,593
Total	¥407,017	¥149,381	¥200,784	¥792,284	¥1,549,466	¥83,036	¥1,632,502
II. Segment income (loss)	¥ 42,736	¥ 13,622	¥ 17,791	¥ 27,776	¥ 101,925	¥ (1,375)	¥ 100,550
III. Segment assets	¥348,824	¥195,713	¥232,533	¥598,707	¥1,375,777	¥55,129	¥1,430,906
IV. Other items:							
Depreciation and amortization (Note 2)	¥ 12,582	¥ 9,412	¥ 7,496	¥ 14,826	¥ 44,316	¥ 3,857	¥ 48,173
Amortization of goodwill	527	86	—	—	613	38	651
Invested in equity method affiliate	22,427	5,602	2,849	58,135	89,013	2,451	91,464
Capital expenditures (Note 2)	17,256	6,579	15,019	18,453	57,307	3,870	61,177

	Thousands of U.S. dollars						
	Reportable Segment						
Year ended March 31, 2019	Mobility	Healthcare	Food & Packaging	Basic Materials	Total	Others (Note 1)	Sum total
I. Net sales:							
Customers	$3,562,168	$1,320,822	$1,796,874	$6,455,752	$13,135,616	$225,128	$13,360,744
Inter-segment	104,982	25,074	12,154	682,585	824,795	523,011	1,347,806
Total	$3,667,150	$1,345,896	$1,809,028	$7,138,337	$13,960,411	$748,139	$14,708,550
II. Segment income (loss)	$ 385,044	$ 122,732	$ 160,294	$ 250,256	$ 918,326	$ (12,389)	$ 905,937
III. Segment assets	$3,142,842	$1,763,339	$2,095,081	$5,394,242	$12,395,504	$496,703	$12,892,207
IV. Other items:							
Depreciation and amortization (Note 2)	$ 113,362	$ 84,800	$ 67,538	$ 133,579	$ 399,279	$ 34,751	$ 434,030
Amortization of goodwill	4,748	775	—	—	5,523	342	5,865
Invested in equity method affiliate	202,063	50,473	25,669	523,786	801,991	22,083	824,074
Capital expenditures (Note 2)	155,473	59,276	135,318	166,259	516,326	34,868	551,194

	Millions of yen						
	Reportable Segment						
Year ended March 31, 2018	Mobility	Healthcare	Food & Packaging	Basic Materials	Total	Others (Note 1)	Sum total
I. Net sales:							
Customers	¥331,038	¥139,120	¥195,840	¥637,700	¥1,303,698	¥24,828	¥1,328,526
Inter-segment	10,954	2,376	1,238	66,690	81,258	54,210	135,468
Total	¥341,992	¥141,496	¥197,078	¥704,390	¥1,384,956	¥79,038	¥1,463,994
II. Segment income (loss)	¥ 42,296	¥ 10,830	¥ 19,924	¥ 38,903	¥ 111,953	¥ (906)	¥ 111,047
III. Segment assets	¥316,313	¥200,684	¥221,550	¥606,896	¥1,342,443	¥50,052	¥1,395,495
IV. Other items:							
Depreciation and amortization (Note 2)	¥ 10,264	¥ 9,501	¥ 6,961	¥ 14,467	¥ 41,193	¥ 3,118	¥ 44,311
Amortization of goodwill	131	586	—	—	717	102	819
Invested in equity method affiliate	17,220	4,920	2,878	54,977	79,995	2,660	82,655
Capital expenditures (Note 2)	32,179	16,018	9,508	15,752	73,457	6,110	79,567

Notes:
1. "Others" encompasses operations not included in reportable segments.
2. Depreciation and amortization and capital expenditures include amortization costs and expenditures under long-term prepaid expenses.

(4) Reconciliation of differences between total amounts of reportable segments and amounts in the consolidated financial statements (adjustments)

	Millions of yen		Thousands of U.S.dollars
Net sales:	**2019/3**	2018/3	**2019/3**
Total reportable segment sales	**¥1,549,466**	¥1,384,956	**$13,960,411**
Net sales classified under "Others"	**83,036**	79,038	**748,139**
Elimination of intersegment transactions	**(149,593)**	(135,468)	**(1,347,806)**
Net sales recorded in Consolidated Statements of Operations	**¥1,482,909**	¥1,328,526	**$13,360,744**

	Millions of yen		Thousands of U.S.dollars
Income:	**2019/3**	2018/3	**2019/3**
Total reportable segment income	**¥101,925**	¥111,953	**$918,326**
Income (loss) classified under "Others"	**(1,375)**	(906)	**(12,389)**
Elimination of intersegment transactions	**(33)**	26	**(297)**
Corporate expenses (Note)	**(7,090)**	(7,582)	**(63,879)**
Operating income recorded in Consolidated Statements of Operations	**¥ 93,427**	¥103,491	**$841,761**

Note: Corporate expenses mainly comprise general and administrative expenses not usually attributed to segments.

	Millions of yen		Thousands of U.S.dollars
Assets:	**2019/3**	2018/3	**2019/3**
Total reportable segment assets	**¥1,375,777**	¥1,345,443	**$12,395,504**
Assets classified under "Others"	**55,129**	50,052	**496,702**
Elimination of intersegment transactions	**(125,293)**	(130,898)	**(1,128,867)**
Corporate assets (Notes 1 and 2)	**195,461**	166,712	**1,761,069**
Assets recorded in Consolidated Balance Sheets	**¥1,501,074**	¥1,431,309	**$13,524,408**

Notes:
1. Corporate assets are mainly attributed to the Company's surplus management funds (cash and savings), long-term investment funds (investment securities), deferred tax assets and administrative departments.
2. Asset balance for the previous fiscal year is restated mainly to reflect the impact of amendments to tax effect accounting standards.

	Millions of yen		Thousands of U.S.dollars
Depreciation and amortization:	**2019/3**	2018/3	**2019/3**
Total reportable segment amounts	**¥44,316**	¥41,193	**$399,279**
Amounts classified under "Others"	**3,857**	3,118	**34,751**
Adjustment amounts (Note)	**680**	524	**6,127**
Amounts from Consolidated Financial Statements	**¥48,853**	¥44,835	**$440,157**

Note: Adjustment amounts are Depreciation and amortization expenses related to new businesses development.

	Millions of yen		Thousands of U.S.dollars
Amortization of goodwill:	**2019/3**	2018/3	**2019/3**
Total reportable segment amounts	**¥613**	¥717	**$5,523**
Amounts classified under "Others"	**38**	102	**342**
Adjustment amounts	**—**	—	**—**
Amounts from Consolidated Financial Statements	**¥651**	¥819	**$5,865**

	Millions of yen		Thousands of U.S.dollars
Amount invested in equity method affiliate:	**2019/3**	2018/3	**2019/3**
Total reportable segment amounts	**¥89,013**	¥79,995	**$801,991**
Amounts classified under "Others"	**2,451**	2,660	**22,083**
Adjustment amounts	**—**	—	**—**
Amounts from Consolidated Financial Statements	**¥91,464**	¥82,655	**$824,074**

	Millions of yen		Thousands of U.S.dollars
Capital expenditures:	**2019/3**	2018/3	**2019/3**
Total reportable segment amounts	**¥57,307**	¥73,457	**$516,326**
Amounts classified under "Others"	**3,870**	6,110	**34,868**
Adjustment amounts (Note)	**747**	1,681	**6,730**
Amounts from Consolidated Financial Statements	**¥61,924**	¥81,248	**$557,924**

Note: Adjustment amounts are capital expenditures related to new businesses development.

Related Information

(Information by Region)

	Millions of yen		Thousands of U.S.dollars
Net sales:	**2019/3**	2018/3	**2019/3**
Japan	**¥ 810,846**	¥ 740,562	**$ 7,305,577**
China	**182,764**	144,699	**1,646,671**
Asia	**198,638**	189,448	**1,789,693**
America	**177,594**	162,219	**1,600,090**
Europe	**104,639**	82,960	**942,779**
Other regions	**8,428**	8,638	**75,934**
Total	**¥1,482,909**	¥1,328,526	**$13,360,744**

Notes:
1. Net sales are classified by country and region based on customer location.
2. Major countries and regions located in areas outside of Japan and China are as follows:
   (1) Asia: Taiwan, South Korea, Thailand, Malaysia, Singapore, India
   (2) America: The United States, Mexico
   (3) Europe: Germany, France
   (4) Other regions: Oceania, Africa

	Millions of yen		Thousands of U.S.dollars
Property, plant and equipment:	**2019/3**	2018/3	**2019/3**
Japan	**¥350,860**	¥345,017	**$3,161,186**
Singapore	**36,011**	35,920	**324,453**
Asia	**28,068**	27,129	**252,888**
Other regions	**28,124**	24,842	**253,391**
Total	**¥443,063**	¥432,908	**$3,991,918**

Note: Major countries and regions located in areas outside of Japan and Singapore are as follows:
(1) Asia: China, Taiwan, South Korea, Thailand, Malaysia, India
(2) Other regions: North America, Europe

(Information by main customers)

	Millions of yen		Thousands of U.S.dollars
Net sales:	**2019/3**	2018/3	**2019/3**
Mitsui & Co., LTD.	**¥264,168**	¥236,002	**$2,380,106**

Note: Related segments are as follows:
Mobility, Health Care, Food&Packaging, Basic Materials, Others

Information Concerning Impairment Loss of Fixed Assets by Reportable Segment

	Millions of yen		Thousands of U.S.dollars
Impairment loss:	**2019/3**	2018/3	**2019/3**
Mobility	**¥ 248**	¥ 395	**$ 2,234**
Health Care	**49**	14,350	**441**
Food & Packaging	**420**	7	**3,784**
Basic Materials	**82**	—	**739**
Others	**—**	150	**—**
Corporate Expenses	**655**	110	**5,902**
Total	**¥1,454**	¥15,012	**$13,100**

Information Concerning the Amount of Amortization and Unamortized Balance of Goodwill by Reportable Segment

	Millions of yen		Thousands of U.S.dollars
Amount of amortization:	**2019/3**	2018/3	**2019/3**
Mobility	**¥527**	¥131	**$4,748**
Health Care	**86**	586	**775**
Food & Packaging	**—**	—	**—**
Basic Materials	**—**	—	**—**
Others	**38**	102	**342**
Corporate Expenses	**—**	—	**—**
Total	**¥651**	¥819	**$5,865**

	Millions of yen		Thousands of U.S.dollars
Unamortized balance:	**2019/3**	2018/3	**2019/3**
Mobility	**¥4,628**	¥5,110	**$41,697**
Health Care	**416**	519	**3,748**
Food & Packaging	**—**	—	**—**
Basic Materials	**—**	—	**—**
Others	**17**	55	**154**
Corporate Expenses	**—**	—	**—**
Total	**¥5,061**	¥5,684	**$45,599**

21. Information on related party transactions

(1) Related party transactions

Main transactions of the Company with its affiliated company for the year ended March 31, 2019 was as follows:

Name of company	Chiba Chemicals Manufacturing LLP
Type of related party	Affiliated company
Location	Chiyoda-ku, Tokyo
Capital stock	¥200 million ($1,802 thousand)
Business	Manufacturing petrochemical materials and supplying to partners
Holding ratio of voting rights	Direct 50%
Relationship	Supply and purchases of raw materials
Transaction amount (Notes 1 and 2)	¥771 million (US$6,947 thousand)
Balance at end of year (Note 2)	Other accounts receivable: ¥13,868 million (US$124,948 thousand)
	Accounts payable: ¥12,068 million (US$108,731 thousand)

Notes:
1. The trade terms of the above transactions were shown on a net basis in the Consolidated Statements of Operations.
2. The trade terms of the above transactions were determined based on consideration of the market prices and others.

Name of company	Shanghai Sinopec Mitsui Chemicals Co., Ltd.
Type of related party	Affiliated company
Location	Shanghai, China
Investments in capital (Note 4)	¥37,923 million ($341,679 thousand)
Business	Manufacturing and sales of phenol, acetone and biphenol A In China
Holding ratio of voting rights	Direct 50%
Relationship	Loan guarantee, interlocking directors
Transaction amount (Note 3)	¥8,123 million (US$73,187 thousand)

Notes:
3. The Company conducts loan gurantees for the related party without gurantee fees.
4. Shanghai Sinopec Mitsui Chemicals, Co., Ltd. increased its capital for the year ended March 31, 2019. Accordingly, investments in capital has been increased from the previous fiscal year.

Name of company	Shanghai Sinopec Mitsui Elastomers, Co., Ltd.
Type of related party	Affiliated company
Location	Shanghai, China
Investments in capital (Note 6)	¥26,453 million ($238,337 thousand)
Business	Manufacturing and sales of ethylene, propylene and diene copolymer rubber in China
Holding ratio of voting rights	Direct 50%
Relationship	Loan guarantee, interlocking directors
Transaction amount (Note 5)	¥9,882 million (US$89,035 thousand)

Notes:
5. The Company conducts loan gurantees for the related party without gurantee fees.
6. Shanghai Sinopec Mitsui Elastomers, Co., Ltd. increased its capital for the year ended March 31, 2019. Accordingly, investments in capital has been increased from the previous fiscal year.

(2) Summary of financial information for significant affiliated companies

The Company's significant affiliates are Chemours-Mitsui Fluoroproducts Co., Ltd. and Shanghai Sinopec Mitsui Chemicals Co., Ltd. for the year ended March 31, 2019.

Chemours-Mitsui Fluoroproducts Co., Ltd.

	Millions of yen		Thousands of U.S.dollars
	2019/3	2018/3	**2019/3**
Balance Sheet			
Total current assets	**¥19,126**	¥22,350	**$172,322**
Total noncurrent assets	**13,354**	13,585	**120,317**
Total current liabilities	**11,775**	9,470	**106,091**
Total noncurrent liabilities	**340**	330	**3,063**
Total net assets	**20,365**	26,135	**183,485**
Statement of Operations			
Net sales	**34,413**	30,544	**310,055**
Profit (loss) before income taxes	**9,402**	9,443	**84,710**
Profit (loss)	**6,599**	6,603	**59,456**

Shanghai Sinopec Mitsui Chemicals Co., Ltd.

	Millions of yen		Thousands of U.S.dollars
	2019/3	2018/3	**2019/3**
Balance Sheet			
Total current assets	**¥32,334**	¥ 8,157	**$291,324**
Total noncurrent assets	**23,339**	27,721	**210,280**
Total current liabilities	**36,908**	39,737	**332,534**
Total noncurrent liabilities	**6,733**	9,605	**60,663**
Total net assets	**12,032**	(13,464)	**108,406**
Statement of Operations			
Net sales	**52,757**	40,923	**475,331**
Profit (loss) before income taxes	**2,042**	(5,289)	**18,398**
Profit (loss)	**2,061**	(5,308)	**18,569**

22. Subsequent events

There were no applicable items.

Independent Auditor's Report

Building a better working world

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Independent Auditor's Report

The Board of Directors
Mitsui Chemicals, Inc.

We have audited the accompanying consolidated financial statements of Mitsui Chemicals, Inc. and its consolidated subsidiaries, which comprise the consolidated balance sheet as at March 31, 2019, and the consolidated statements of operations, comprehensive income, changes in net assets, and cash flows for the year then ended and a summary of significant accounting policies and other explanatory information, all expressed in Japanese yen.

Management's Responsibility for the Consolidated Financial Statements

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

Auditor's Responsibility

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

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

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

Opinion

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of Mitsui Chemicals, Inc. and its consolidated subsidiaries as at March 31, 2019, and their consolidated financial performance and cash flows for the year then ended in conformity with accounting principles generally accepted in Japan.

Convenience Translation

We have reviewed the translation of these consolidated financial statements into U.S. dollars, presented for the convenience of readers, and, in our opinion, the accompanying consolidated financial statements have been properly translated on the basis described in Note 4.

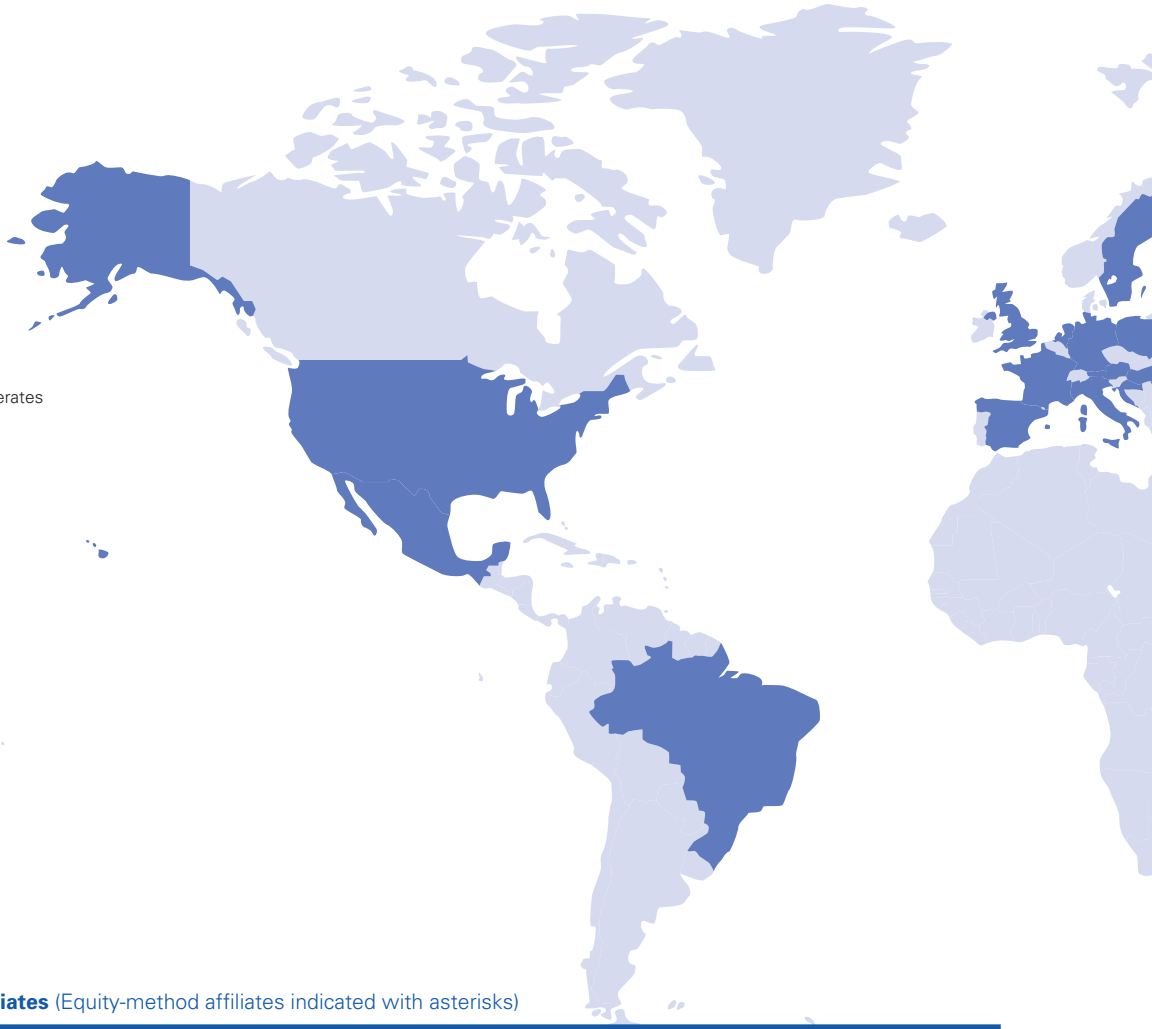
Ernst & Young ShinNihon LLC

June 25, 2019
Tokyo, Japan

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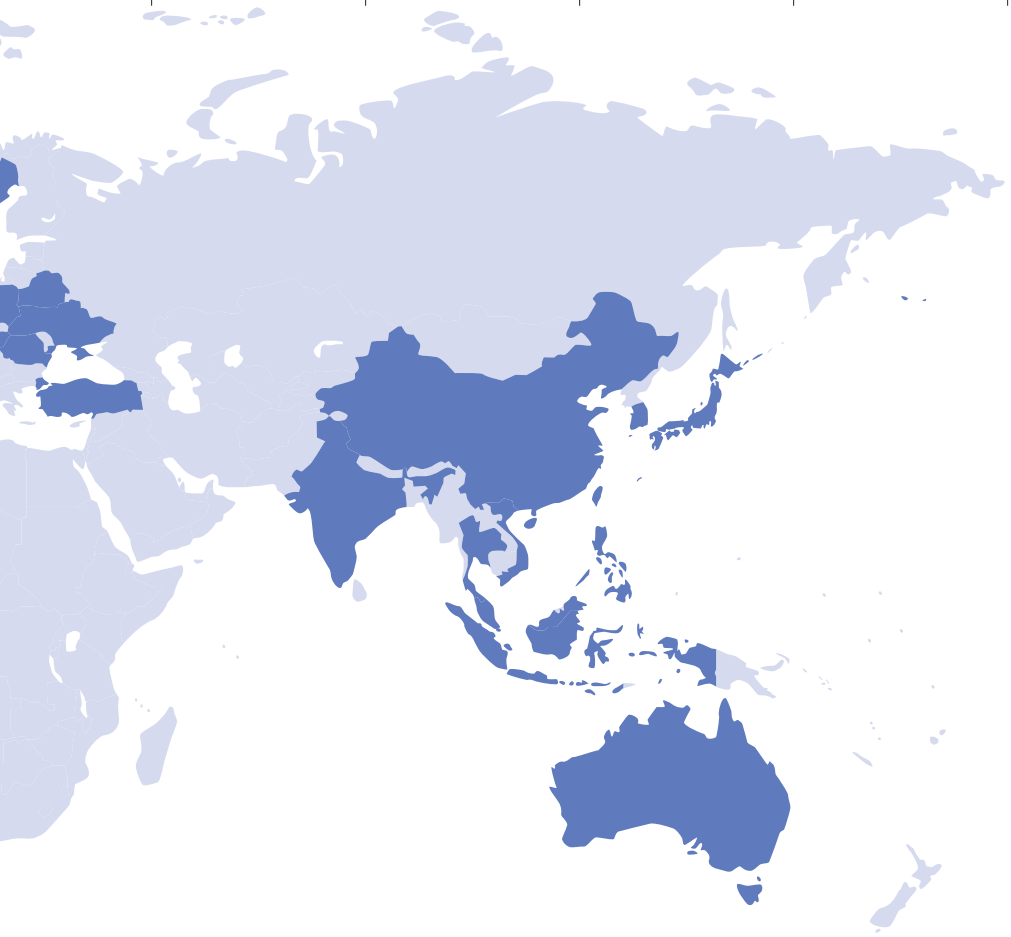
(As of March 31, 2019)



■ : Countries in which the Group operates

Major Subsidiaries and Affiliates (Equity-method affiliates indicated with asterisks)

Companies	Location	Paid-in Capital (In millions)		Equity Interest (%)	Major Products or Lines of Business
Mobility					
Advanced Composites, Inc.	U.S.A.	USD	14	61.8	Polypropylene compounds
Grand Siam Composites Co., Ltd.	Thailand	THB	64	47.1	Polypropylene compounds
Mitsui Elastomers Singapore Pte. Ltd.	Singapore	USD	96	100.0	Elastomer
Advanced Composites Mexicana S.A. de C.V.	Mexico	USD	3	61.8	Polypropylene compounds
Mitsui Advanced Composites (Zhongshan) Co., Ltd.	China	CNY	117	63.0	Polypropylene compounds
Mitsui Chemicals Industrial Products, Co., Ltd.	Bunkyo-ku, Tokyo	JPY	400	100.0	Civil engineering and construction materials, and piping materials for synthetic resins
Mitsui Prime Advanced Composites India Pvt. Ltd.	India	INR	2,450	84.0	Polypropylene compounds
Mitsui Prime Advanced Composites do Brasil Indústria e Comércio de Compostos Plásticos S.A.	Brazil	BRL	107	93.0	Polypropylene compounds
Mitsui Prime Advanced Composites Europe B.V.	Netherlands	EUR	18	81.5	Polypropylene compounds
ARRK Corporation	Osaka City, Osaka	JPY	2,000	74.7	Industrial products for automobiles
ARRK Product Development Group Ltd.	U.K.	GBP	20	74.7	Industrial products for automobiles
Shapers' France SASU	France	EUR	26	74.7	Industrial products for automobiles
ARRK Corporation (Thailand) Ltd.	Thailand	THB	1,180	74.7	Industrial products for automobiles
Chemours-Mitsui Fluoroproducts Co., Ltd.*	Minato-ku, Tokyo	JPY	2,880	50.0	Fluorocarbon resins and gases, and other related chemicals
Dow-Mitsui Polychemicals Co., Ltd.* (On April 1, 2019, company name changed from Du Pont-Mitsui Polychemicals Co., Ltd.)	Minato-ku, Tokyo	JPY	6,480	50.0	Ethylene vinyl acetate copolymers and other ethylenic copolymers
Health Care					
Kulzer GmbH	Germany	EUR	25	80.0	Dental materials
Mitsui Fine Chemicals, Inc.	Chuo-ku, Tokyo	JPY	400	100.0	Fine chemical products and inorganic chemicals
Kulzer, LLC	U.S.A.	USD	6	80.0	Dental materials
Mitsui Hygiene Materials Thailand Co., Ltd.	Thailand	THB	1,310	100.0	Hygiene materials
SDC Technologies, Inc.	U.S.A.	USD	84	100.0	High-performance coating materials for plastics and nonferrous metals
Mitsui Chemicals Nonwovens (Tianjin) Co., Ltd.	China	CNY	470	100.0	Nonwoven fabrics for hygiene materials



Domestic Sites

(As of March 31, 2019)

Head office and branches

Head Office (Tokyo)
Nagoya Branch
Osaka Branch
Fukuoka Branch

Works

Ichihara Works
Mobara Branch Factory
Nagoya Works
Osaka Works
Iwakuni-Ohtake Works
Omuta Works

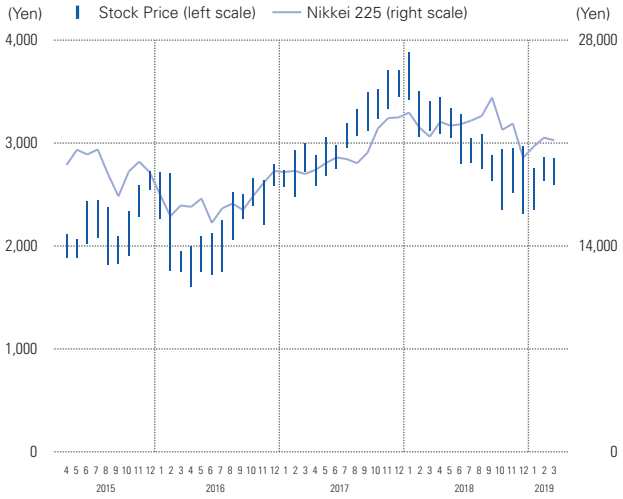
R&D site

R&D Center

Companies	Location	Paid-in Capital (In millions)		Equity Interest (%)	Major Products or Lines of Business
Food & Packaging					
Mitsui Chemicals Tohcello, Inc.	Chiyoda-ku, Tokyo	JPY	3,450	100.0	Synthetic resin films
Mitsui Chemicals Agro, Inc.	Chuo-ku, Tokyo	JPY	350	100.0	Agrochemicals
Japan Composite Co., Ltd.	Chuo-ku, Tokyo	JPY	1,005	65.0	Unsaturated polyester resins and molding materials
Anderson Development Company	U.S.A.	USD	1	100.0	Specialty chemicals
Basic Materials					
Prime Polymer Co., Ltd.	Minato-ku, Tokyo	JPY	20,000	65.0	Polyethylene and polypropylene
Mitsui Phenols Singapore Pte. Ltd.	Singapore	USD	120	95.0	Phenol, acetone and bisphenol-A
Prime Evolue Singapore Pte. Ltd.	Singapore	USD	115	52.0	Polyethylene
Evolue Japan Co., Ltd.	Minato-ku, Tokyo	JPY	100	48.8	Polyethylene
Shimonoseki Mitsui Chemicals, Inc.	Shimonoseki, Yamaguchi	JPY	490	100.0	Phosphoric acid and gases
Shanghai Sinopec Mitsui Chemicals, Co., Ltd.*	China	CNY	2,347	50.0	Phenol, acetone and bisphenol-A
Mitsui Chemicals & SKC Polyurethanes Inc.*	South Korea	KRW	70,006	50.0	Development, manufacturing, and sales of polyurethane materials
Others					
Mitsui Chemicals Europe GmbH	Germany	EUR	1	100.0	Sales and marketing of Mitsui Chemicals products, representative office function, and support of headquarters
Mitsui Chemicals America, Inc.	U.S.A.	USD	176	100.0	Sales and marketing of Mitsui Chemicals products, representative office function, and support of headquarters
Mitsui Chemicals (China) Co., Ltd.	China	CNY	59	100.0	Sales and marketing of Mitsui Chemicals products, representative office function, and support of headquarters
Taiwan Mitsui Chemicals, Inc.	Taiwan	TWD	28	100.0	Sales and marketing of Mitsui Chemicals products in Taiwan
Kyowa Industrial Co., Ltd.	Sanjo City, Niigata	JPY	95	100.0	Sales and manufacture of molds
Mitsui Chemicals Asia Pacific, Ltd.	Singapore	USD	2	100.0	Sales and marketing of Mitsui Chemicals products, representative office function, and support of headquarters

Stock Information

Common Stock Price Range



*On October 1, 2017, Mitsui Chemicals conducted a 5-to-1 share consolidation. Stock prices have been recalculated based on this share consolidation.

Major Shareholders

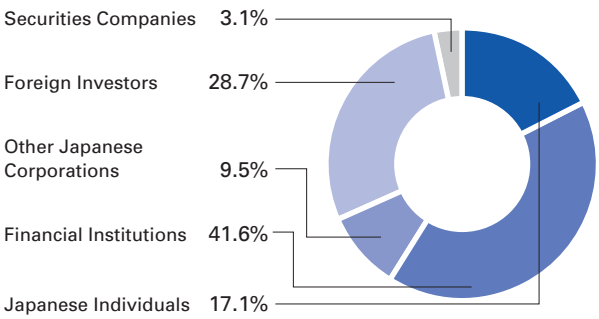
(As of March 31, 2019)

Major Shareholders	Number of shares held (Thousands)	Percentage of shares held (%)
Japan Trustee Services Bank, Ltd. (Trust account)	16,978	8.70
The Master Trust Bank of Japan, Ltd. (Trust account)	16,185	8.29
Japan Trustee Services Bank, Ltd. (Trust account 4)	4,384	2.24
Japan Trustee Services Bank, Ltd. (Trust account 5)	3,496	1.79
Mitsui & Co., Ltd.	3,474	1.78
Japan Trustee Services Bank, Ltd. (Sumitomo Mitsui Trust Bank, Limited Re-trust account, Mitsui & Co., Ltd. Pension trust account)	3,474	1.78
The Nomura Trust and Banking Co., Ltd. (Trust Account)	3,154	1.61
Japan Trustee Services Bank, Ltd. (Trust Account 7)	3,035	1.55
Toray Industries, Inc.	2,985	1.53
STATE STREET BANK WEST CLIENT – TREATY 505234	2,815	1.44

Note: The company's holdings of treasury stock (9,452,793 shares) are not included in the above figures.

Composition of Shareholders

(As of March 31, 2019)



Credit Ratings

(As of March 31, 2019)

Rating agencies	Rating
Japan Credit Rating Agency, Ltd. (JCR)	A+
Rating and Investment Information, Inc. (R&I)	A

Corporate Information

(As of March 31, 2019)

Date of Establishment	October 1, 1997	
Paid-in Capital	¥125,125,600,699	
Number of Employees	17,743 (Consolidated)	
Subsidiaries and Affiliates	Consolidated subsidiaries	Domestic 36 Overseas 88
	Equity-method affiliates	Domestic 12 Overseas 19
Shares of Common Stock Issued and Outstanding	204,510,215	
Number of Shareholders	66,332	
Stock Exchange Listing	1st Section, Tokyo Stock Exchange	
Transfer Agent	Sumitomo Mitsui Trust Bank, Limited	

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Supporting a runner in the 250km Sahara Desert marathon

The 250 kilometer-long Marathon Des Sables is said to be one of the toughest foot races in the world. Over seven grueling days, competitors aim to complete the roughly 250 kilometer-long course through the Sahara Desert—the world's largest—in northern Africa. Mr. Junichi Okubo[*1], a stage 3 cancer survivor and CEO of NPO 5years[*2], brilliantly completed this punishing ultramarathon.

Mitsui Chemicals sponsored and supported this race because we identify with Mr. Okubo's never-say-die attitude, which embodies the spirit of "challenge," one of our core values.

For the race, we provided Mr. Okubo with some sunglasses equipped with two types of lenses that we developed: (1) NeoContrast™ to reduce glare and enhance contrast sensitivity and (2) UrbanPola™ to cut out reflected light and bright wavelengths under the fierce desert sun. After the race, Mr. Okubo said that he could clearly see the marker lights in the distance when running through the desert at night and that the sunglasses kept his eyes safe in the scorching heat of the desert during the day.



Sunglasses for the race were presented by the Vision Care Materials Division



The logos of both Mitsui Chemicals and UrbanPola™ are visible on the sunglasses



*1 **Mr. Junichi Okubo** was a company employee in 2007 when he was diagnosed with testicular cancer and interstitial pneumonia. Despite a five-year survival rate of 20%, he narrowly escaped death and returned to work the following year. In 2013 he made a comeback to competitive running by taking part in the 2013 Lake Saroma Ultramarathon (100km) and then in 2015 achieved his goal of beating his pre-cancer personal best. He currently provides support to cancer patients as CEO of the NPO 5years.

*2 **NPO 5years** runs a social networking website where cancer patients can obtain necessary information to carry on working and cancer survivors share their experiences that many patients can use as references. Mitsui Chemicals has continued to donate to this organization since 2018 through its One Coin Club, a joint CSR initiative between employees and the Company.

Following his return to Japan, Mr. Okubo met with Managing Executive Officer Yoshinori Ando to talk about diversity.

https://www.mitsuichem.com/en/sustainability/feature/diversity.htm

UrbanPola™
https://www.mitsuichem.com/en/service/healthcare/vision/urbanpola/index.htm

NeoContrast™
https://www.mitsuichem.com/en/service/healthcare/vision/neocontrast/index.htm

Mitsui Chemicals

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Please visit our website for more detailed and up-to-date investor relations and sustainability information.

Investor Relations
https://www.mitsuichem.com/en/ir/index.htm

Sustainability
https://www.mitsuichem.com/en/sustainability/index.htm


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