



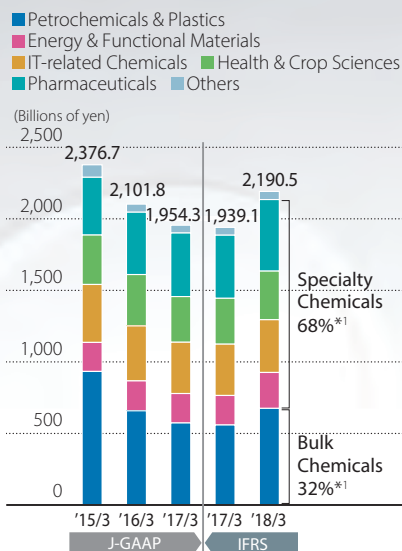
## Taking on Challenges without Limits will Change the Future

At the end of 1915, when Sumitomo Chemical began manufacturing fertilizer, the company only had about 160 employees. Since then, five business sectors have been born from the wide range of technologies we have developed over many years, as we grew into a diversified chemical manufacturer with about 30,000 employees. The following pages introduce the changes our company has undergone and each business sector's initiatives.

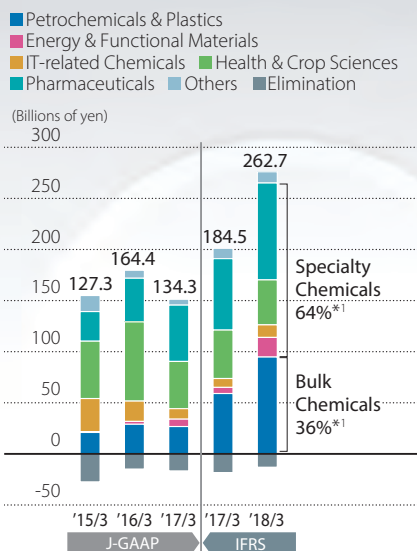
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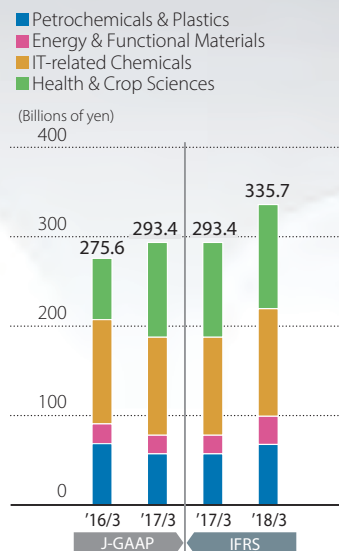
**J-GAAP** Net Sales by Business Sector  
**IFRS** Sales Revenue by Business Sector



**J-GAAP** Operating Income by Business Sector  
**IFRS** Core Operating Income by Business Sector\*<sup>2</sup>



**J-GAAP** SSS\*<sup>3</sup> Sales by Business Sector  
**IFRS** SSS Sales Revenue by Business Sector



#### Change in Business Sector Classification Methods

As of April 1, 2015, the Basic Chemicals Sector was eliminated and businesses in this sector were split and transferred to the Petrochemicals & Plastics Sector and the Energy & Functional Materials Sector that was established as a new business sector. In addition, a part of businesses in the Petrochemicals & Plastics Sector was transferred to the Energy & Functional Materials Sector. Inorganic chemicals, raw materials for synthetic fibers, organic chemicals, and methyl methacrylate that had been included in the Basic Chemicals Sector were transferred to the Petrochemicals & Plastics Sector. Alumina products, aluminum, functional materials, additives, and dyes that had also been included in the Basic Chemicals Sector were transferred to the Energy & Functional Materials Sector. The business sector categorization of one of the consolidated subsidiaries has been changed. For comparison, the figures for fiscal 2014 have been adjusted to reflect the organizational revision as of April 1, 2015, except for return on assets in the Petrochemicals & Plastics Sector, the Energy & Functional Materials Sector, and the Health & Crop Sciences Sector.

To further strengthen the Energy & Functional Materials business, as of April 1, 2016, battery materials and engineering plastics that had been included in the IT-related Chemicals Sector were transferred to the Energy & Functional Materials Sector. For comparison, the figures for fiscal 2015 have been adjusted to reflect the organizational revision as of April 1, 2016, except for return on assets in the Energy & Functional Materials Sector, and the IT-related Chemicals Sector.

\*<sup>1</sup> Excluding "Others" and adjustment amount.

\*<sup>2</sup> Figures on top of each bar in the graph include eliminations.

\*<sup>3</sup> Sumika Sustainable Solutions

# Origins of the Business Sectors

1913

## » The Birth of Sumitomo Chemical

Sumitomo Chemical was born with the goals of overcoming an environmental problem and increasing agricultural production by manufacturing fertilizer from the gasses emitted from the refining of copper.

Since its foundation, Sumitomo Chemical's philosophy has been to contribute to the sustainable development of society through our business. This is very much in line with the way of thinking in the SDGs.



Sumitomo Fertilizer Manufactory

1953

## » Entering the Crop Sciences Business

Sumitomo Chemical's entry into the crop sciences field began with the manufacture of Pynamin®, a household insecticide, one of the new businesses started after the war.



Pynamin Plant (Torishima, Osaka)

1944

## » Entering the Fine Chemicals Business

Sumitomo Chemical merged with Japan Dyestuff Manufacturing Company, which was engaged in the fine chemicals business, including dyes and pharmaceuticals.



Japan Dyestuff Manufacturing Company Kasugade Works

1958

## » Entering the Petrochemicals Business

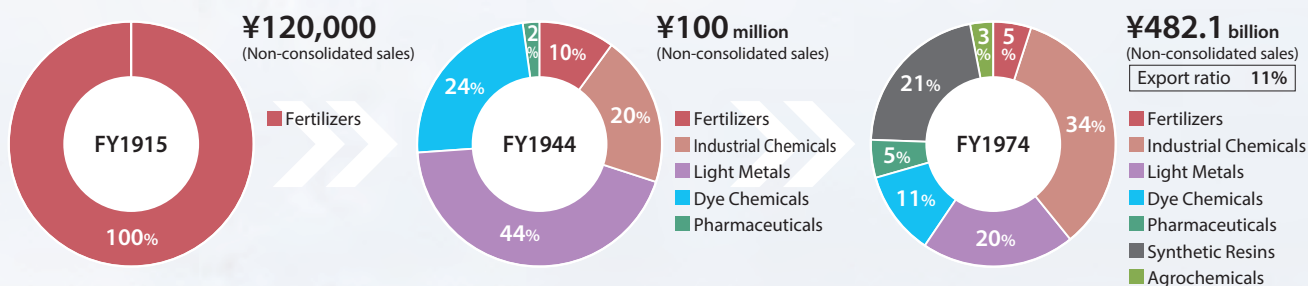
Sumitomo Chemical brought in technology from outside Japan, built an ethylene plant in the Ohe district of Ehime, and began full-scale operations.



Ethylene Plant (Ohe, Ehime)

J-GAAP Net Sales / Composition of Net Sales

IFRS Sales Revenue / Composition of Sales Revenue





1975-

### » Advancing Globalization in Each Business

In order to respond to changes in the framework of the global economy and society, Sumitomo Chemical expanded all of its businesses outside Japan.

1984

Petrochemical Corporation of Singapore began operations



1988

Established Valent U.S.A. as a development and sales location for agricultural chemicals in the U.S.



1991

Established Dongwoo Pure Chemicals (now Dongwoo Fine-Chem) in South Korea



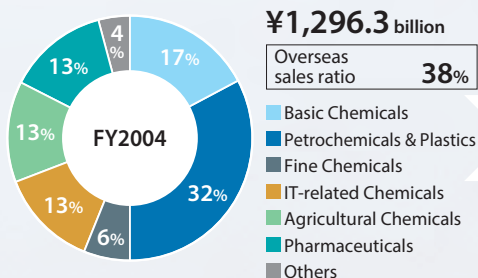
1984

### » Launch of Sumitomo Pharmaceuticals Co., Ltd.

In order to improve the efficiency of research and development and increase the agility of sales, Sumitomo Chemical and Inabata & Co. spun off their pharmaceuticals businesses, establishing Sumitomo Pharmaceuticals Co., Ltd. Subsequently, in 2005, it merged with Daiinippon Pharmaceutical Co., Ltd., becoming Sumitomo Daiinippon Pharma.



Advertisements for Dan, a post-war popular cold remedy, and U-VON, an anti-aging/nutritional drug



2001

### » IT-related Chemicals Sector Established

Sumitomo Chemical aggregated its ICT-related businesses, establishing the IT-related Chemicals Sector in order to expand and increase the efficiency of these businesses and strengthen their business foundations by centralizing information and accelerating decision-making.

2015

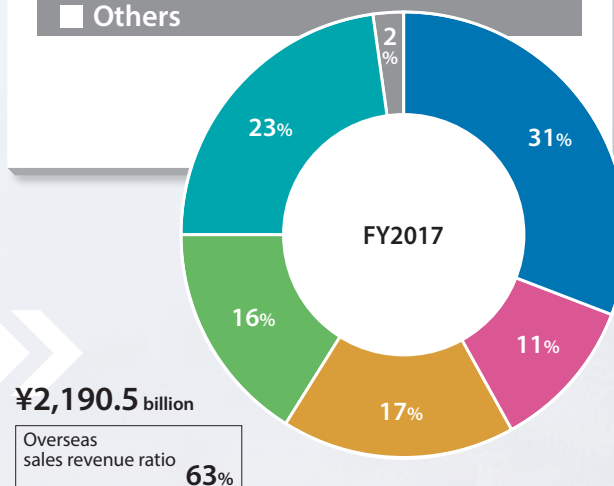
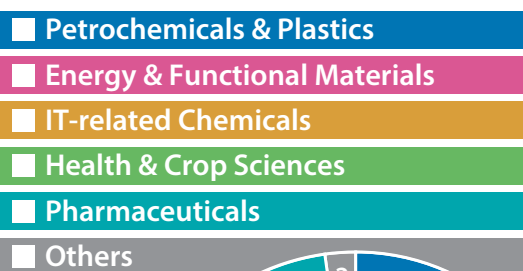
### » Energy & Functional Materials Sector Established

Sumitomo Chemical aggregated its businesses relating to the environment and energy, establishing the Energy & Functional Materials Sector in order to accelerate the development of new businesses in the field and expand income by further clarifying its customer-oriented mindset.

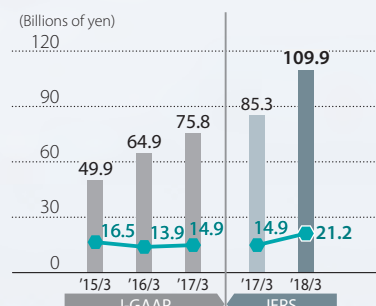
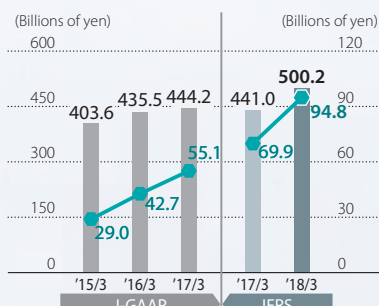
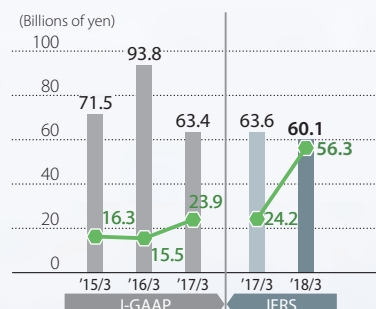
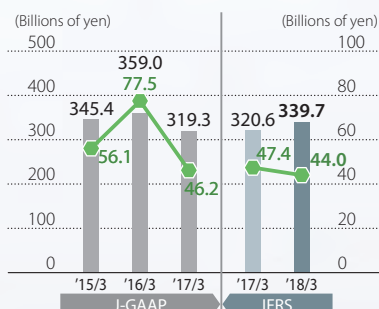
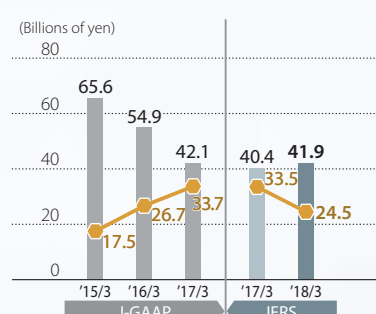
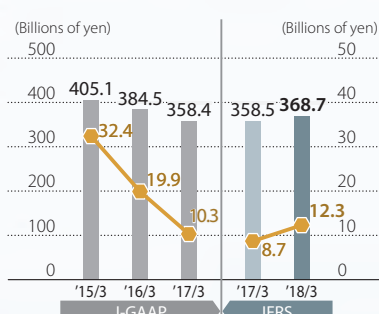
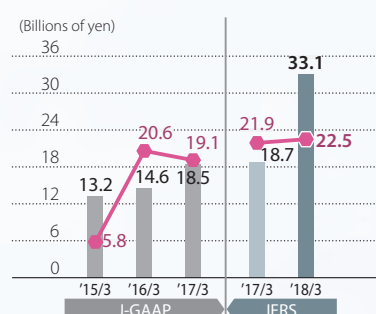
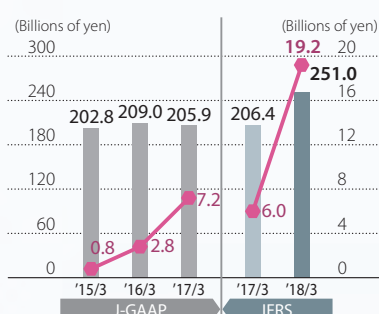
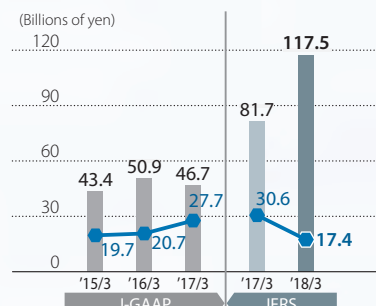
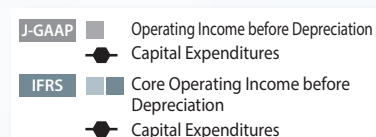
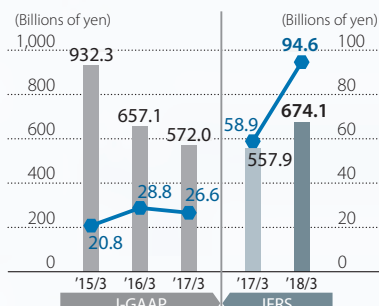
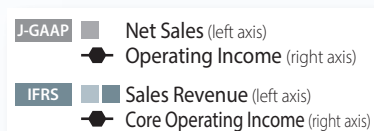


Resorcinol

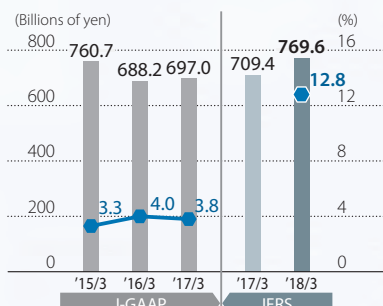
Present



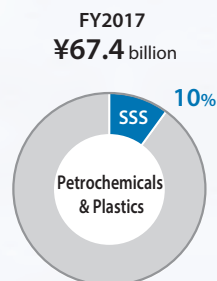
# Sumitomo Chemical Today



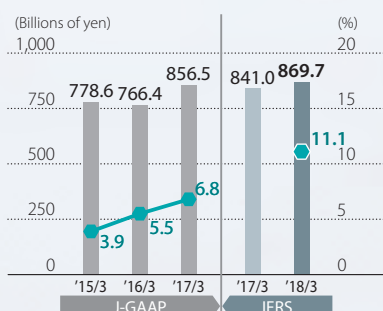
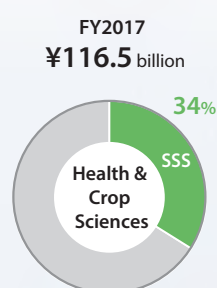
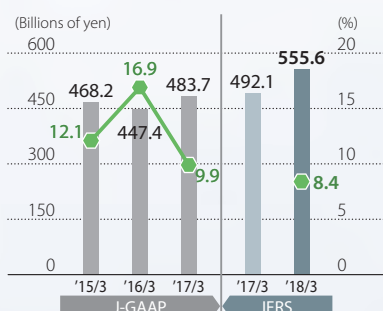
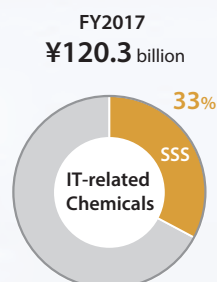
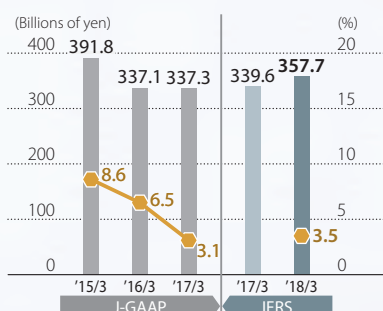
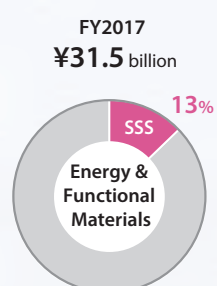
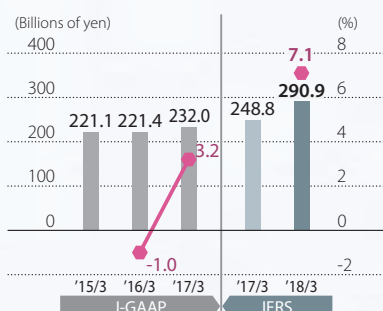
■ Total Assets (left axis)  
● ROA (right axis)



### Sumika Sustainable Solutions Sales Revenue / Composition of Sales Revenue



### Primary Focus SDGs



### Sumitomo Dainippon Pharma

#### Initiative for Access to Healthcare

▶ [https://www.ds-pharma.com/csr/customer/improved\\_access.html](https://www.ds-pharma.com/csr/customer/improved_access.html)



### Nihon Medi-Physics





## Petrochemicals & Plastics

### Provide Customers with New Solutions Based on High Value-added Products

竹下 策昭

Noriaki Takeshita

Representative Director & Senior Managing Executive Officer

Sumitomo Chemical's Petrochemicals & Plastics Sector manufactures such products as polyethylene (PE), polypropylene (PP), and methyl methacrylate (MMA) using the various strengths of its manufacturing locations in Japan, Singapore, and Saudi Arabia, and offers them to a wide variety of industries, including automobiles, electric appliances, and food products.

We are manufacturing cost-competitive products in Saudi Arabia, taking advantage of the low prices of raw materials and fuel in that region. At our locations in Singapore and Japan, we are developing high value-added products in anticipation of customer needs, and we also provide a stable supply of high-quality products. Our relationships of trust with core customers in the Asian market, cultivated over many years, are also a major strength of Sumitomo Chemical.

Currently, we are working to achieve stable plant operations in Saudi Arabia, and to enhance our ability to offer solutions through high value-added products in Singapore and Japan.

In fiscal 2017, stable operations continued at the Rabigh Phase I plant in Saudi Arabia, enabling us to record our highest ever profit. In addition, we completed construction on the

Rabigh Phase II Project, and began production of products. Moreover, in Singapore, we further enhanced the cost competitiveness of our naphtha cracker through measures including the building of new naphtha tanks.

Our greatest issue at present is getting production at the Rabigh Phase II Project on track as soon as possible to mobilize its initially planned capabilities. We aim to quickly transfer to Saudi Arabia the technology we have previously developed in order to achieve stable plant operations. Moreover, in Singapore and Japan, we are continuing to put effort into developing high value-added applications for polyolefin, while in Japan we are enhancing our licensing business. In addition, we aim to improve the competitiveness of our naphtha cracker in Singapore by revamping equipment.

Going forward, Sumitomo Chemical will not only continue to enhance our strengths in these three locations, but will also aim to consistently achieve a return on assets in excess of our cost of capital by working to streamline assets, including working capital.

| (Billions of yen)     | FY2017 | In Comparison to FY2016 | Corporate Business Plan FY2016-FY2018: Sector Goals FY2018 Target |
|-----------------------|--------|-------------------------|---|
| Sales revenue         | 674.1  | +116.3                  | 800.0   |
| Core operating income | 94.6   | +35.7                   | 39.0  |
| Sales revenue of SSS* | 67.4   | +10.4                   |   |

\* Sumika Sustainable Solutions

#### Primary Focus SDGs





## Status of the Major Businesses

- Global operation by leveraging the competitive advantages of the three bases in Japan, Singapore, and Saudi Arabia
- Strong relations with prominent customers in the Asian market
- Access to low-cost ethane feedstock
- Capabilities to develop high value-added products

- Large and deep markets
- Steady growth in demand



- Relatively small business size compared to the global majors
- Dependence on naphtha, a more expensive feedstock than ethane / shale gas

- Establishment of more cost-competitive new plants
- Business risks and country risks

## Main Initiatives in the Major Businesses

### ■ Polyolefin Business (Polyethylene and Polypropylene)

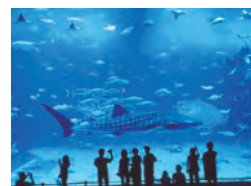
Global polyethylene (PE) demand is estimated at 90 million tons per year, and that of polypropylene (PP) is estimated at 65 million tons per year. Demand for both PE and PP is expected to grow at an annual rate of 4%. We operate PE and PP manufacturing facilities in Japan, Singapore, and Saudi Arabia with a combined production capacity of 1.66 million tons per year for PE and 1.68 million tons per year for PP. We aim to further enhance the profitability of our PE business by expanding our business in high value-added applications, such as water-resistant laminate for paper and protective films for LCDs. We are enhancing our PP business in high value-added applications, such as PP compounds for use in automotive components, film materials for high-quality electronic components, and film materials for food packaging.



Products made using polyethylene

### ■ MMA Business

MMA polymer, which offers outstanding transparency and weather resistance, is an excellent material for a broad range of uses, such as light-guide plates for LED televisions and other optical components, as well as automotive applications, showcases, and outdoor signboards. With the economic expansion in Asian countries, demand in Asia for MMA polymer is estimated at 700,000 to 800,000 tons per year, and is expected to grow at an annual rate of 3 to 4%. As Asia's major MMA producer, Sumitomo Chemical continues to enhance the competitiveness of its entire MMA product chain, from monomers and polymers to the sheet business.



A large aquarium tank made using MMA

### Rabigh Project



Sumitomo Chemical and the Saudi Arabian Oil Company (Saudi Aramco), the world's largest oil company, each have a 37.5% stake in the Rabigh Refining and Petrochemical Company (Petro Rabigh), and support the operation of Petro Rabigh's world-scale integrated oil refinery and petrochemical complex. In the Rabigh Phase I Project, the complex utilizes crude oil and highly cost-competitive ethane as primary feedstocks to produce a variety of refined petroleum products and petrochemical products. In the Rabigh Phase II Project, full-scale production of high value-added petrochemical products has begun.



#### Major Management Resources (Input)

|  |  |
|--|--|
| <b>Natural Capital</b>                 | Cost-competitive ethane from Saudi Aramco                              |
| <b>Social and Relationship Capital</b> | Good relations with the Saudi Arabian government built over many years |
| <b>Human Capital</b>                   | Improved skill-level of local employees in recent years                |
| <b>Manufacturing Capital</b>           | A world-scale integrated oil refinery and petrochemical complex        |



Operations at Petro Rabigh

#### Value Chain



**Supplier**  
Saudi Aramco



**Petro Rabigh**

#### Major Processes Generating Competitive Advantages

**Production:** Petro Rabigh produces products such as PP, PE, and PO (propylene oxide), using technology licenses from Sumitomo Chemical, which boasts world-class technology. Moreover, the local staffs' operational technique is improving dramatically by receiving training at overseas facilities, particularly in Singapore.

**Sales:** Sumitomo Chemical Asia has taken on the role of supplying products produced by Petro Rabigh in Saudi Arabia to countries across Asia. The company has shortened delivery times and reduced logistics costs by establishing stocking points throughout Asia.

#### Competitive Advantages of Rabigh Project

##### Competitive Conditions in the Market

Because the field of petrochemical products is extremely broad, connected with the necessities of life – food, clothing, and shelter – the market is incredibly vast, with massive numbers of players. Petro Rabigh's ethylene production capacity is 1.6 million tons per year.

| Ethylene Production Capacity<br>(1,000 tons/year) |              | PE Production Capacity<br>(1,000 tons/year) |              |
|---|--------------|---|--------------|
| ① SABIC   | 12,365       | ① Exxon Mobil                               | 9,410        |
| ② Dow Chemical                                    | 11,996       | ② Dow Chemical                              | 8,178        |
| ③ Exxon Mobil                                     | 9,040        | ③ SABIC                                     | 6,485        |
| <b>Petro Rabigh</b>                               | <b>1,600</b> | <b>Petro Rabigh</b>                         | <b>1,050</b> |

(Source) "Chemicals Handbook 2017"  
by The Heavy & Chemical Industries News Agency

##### Competitive Advantages

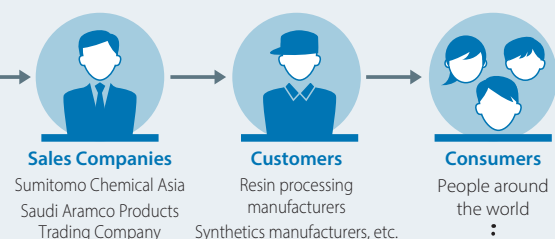
Among a large number of players, Petro Rabigh has outstanding cost competitiveness compared to other companies using naphtha as a feedstock by sourcing cost-competitive ethane from Saudi Aramco for its major feedstock. In addition, because it is a world-scale integrated complex, the company has a low unit cost as another competitive advantage.

#### Earnings Structure and Role in Driving Income

The margins for petrochemical products change depending on the supply and demand balance for each of the various products. On the other hand, because the prices for ethane feedstock are fixed, margins for petrochemical products produced at Petro Rabigh expand when product prices increase, compared with companies that use naphtha as a feedstock. In order to increase the profitability of Petro Rabigh, the company is endeavoring to continue safe and stable operations. In addition, the business is expected to expand in the future by beginning full-scale operation of Phase II Project facilities and achieving a high rate of stable operations.

## Added Value Provided to Society

Petro Rabigh produces a variety of petroleum and petrochemical products using crude oil and cost-competitive ethane from Saudi Aramco as its primary feedstocks.



### Customer and Consumer Needs

There are cases when customers in regions in Asia and the Middle East have to maintain a significant amount of inventory because there is a risk of difficulty in procuring petrochemical products due to unstable logistic arrangements in this region. Moreover, in cases when customers switch suppliers, it is a burden on customers to adjust the products' processing methods used in customer factories. For these reasons, customers demand accurate and stable product deliveries.

### Providing Customer Value

Sumitomo Chemical Asia, which sells products from Petro Rabigh, offers more reliable product deliveries than the competition, as well as short delivery times, because it has warehouses in locations near its customers. This means it is able to provide a stable supply, and to earn a high degree of trust from customers. In addition, while it has the flexibility to change a certain volume of sales and customers according to market conditions in each region, by focusing more on continued sales to core customers, the company further increases the reliability of its stable supply. Through these efforts, Sumitomo Chemical Asia is working to build long-term relationships with customers.



### Supporting the Foundation of Peoples' Daily Lives and Strengthening Friendly Relations between Japan and Saudi Arabia

Products produced by Petro Rabigh form the foundation of a wide range of industries, including automobiles, electric appliances, food products, and other daily necessities. In addition, the company is not only contributing to the development of Saudi Arabia by creating employment in the country, it is also contributing to the strengthening of friendly relations between Japan and Saudi Arabia, the world's largest oil producer.

#### Sumika Sustainable Solutions

The propylene oxide-only (PO-only) process has been designated as one of the Sumika Sustainable Solutions. This PO-only technology is a groundbreaking, environmentally friendly process that uses heat effectively and limits wastewater, without producing byproducts.



Propylene oxide-only  
process plant (Chiba)



岩田 圭一

Keiichi Iwata

Representative Director & Senior Managing Executive Officer

## Energy & Functional Materials

### Contribute to Solving Environmental and Energy Issues through the Revolutionary Technologies Resulting from a Long-term Perspective Research and Development

The Energy & Functional Materials Sector was created in 2015 by integrating related businesses that had been spread across multiple business units within Sumitomo Chemical, with the goal of developing and strengthening businesses in the fields of the environment and energy. The goal of this sector is to contribute to solving global environmental and energy problems through the revolutionary technologies resulting from a long-term perspective on research and development.

A major core competency of this sector is its global business development capability, as proved by high-purity alumina and resorcinol, our products that hold the top global market share, but also by our separators for lithium-ion secondary batteries, which offer world-class heat resistance. The above products are also results of our other core competencies: our research and development capabilities as well as our evaluation, manufacturing, and process technologies.

This sector's medium-term strategy is to continue to expend every effort of investing its management resources particularly in those fields in which Sumitomo Chemical can offer comparative advantages technologically, and where the growth of those businesses can be expected. At the same time, we are working to restructure businesses that have become unprofitable.

In fiscal 2015, this sector's first year of existence, an operating loss was posted, but through initiatives aimed at improving income across each of manufacturing, sales, and research, particularly increasing sales of super engineering plastics and resorcinol, we recorded core operating income of 19.2 billion yen in fiscal 2017. The sector is conducting a phased increase of production capacity in the heat-resistant battery separator materials plant built in South Korea in 2016. On the other hand, the sector also conducted a business triage, which for example led to exiting the diesel particulate filter business.

By focusing management resources on new research and development in the fields where Sumitomo Chemical has comparative advantages, and where long-term growth can be expected, we will actively work to develop the core businesses of this sector. In addition, to reliably record profits we are continuing our efforts to improve the earnings capacity for all businesses. Moreover, in our efforts to develop core businesses from a medium to long-term perspective, we aim to promote the development of our CO<sub>2</sub> separation membrane business, which is a promising technology for reducing greenhouse gas emissions, one of the global issues.

| (Billions of yen)     | FY2017 | In Comparison to FY2016 | Corporate Business Plan FY2016-FY2018: Sector Goals FY2018 Target |
|-----------------------|--------|-------------------------|---|
| Sales revenue         | 251.0  | +44.6                   | 260.0   |
| Core operating income | 19.2   | +13.2                   | 18.0  |
| Sales revenue of SSS* | 31.5   | +10.7                   |   |

\* Sumika Sustainable Solutions

#### Primary Focus SDGs





## Status of the Major Businesses

- Products with top global market shares
- Differentiated products with technological advantage

- Expansion of the environment- and energy-related markets



- Need to enhance the capability of grasping fast-changing market and customer needs

- Developing and drastically changing markets
- Intense competition

## Main Initiatives in the Major Businesses

### ■ Advanced Polymers Business

Sumitomo Chemical manufactures and sells super engineering plastics including liquid crystal polymer (LCP) and polyethersulfone (PES). LCP is used mainly in connectors and other electronic parts, taking advantage of its outstanding thermal resistance, flowability, and dimensional stability. PES, with excellent flame resistance, thermal resistance, and dimensional stability, is used mainly in carbon fiber composite materials in aircraft. Demand is growing, as both polymers contribute to reducing weight and processing costs for final products. In addition, we are pioneering new applications that take advantage of these features, including use in automotive components.



Super engineering plastics

### ■ Resorcinol Business

We manufacture and sell resorcinol, which is used as a bonding agent between tire rubber and reinforcing materials, and as a raw material for a wood adhesive used in construction. Worldwide demand for resorcinol is estimated at 60,000 tons. As the world's top manufacturer of resorcinol, we have an annual production capacity of over 30,000 tons and supply highly cost-competitive resorcinol by taking advantage of our outstanding manufacturing technology and production capacity.



Resorcinol

### ■ Inorganic Materials Business

We provide distinctive high-performance inorganic materials using our advanced technologies for precisely controlling such physical properties as particle size and form. In addition to high-purity alumina, for which demand is increasing for such applications as a component in lithium-ion secondary batteries, we also manufacture and sell fine alumina used as a raw material for glass substrates for products like liquid crystal displays, aluminum hydroxide, used for products like artificial marble, and high-purity aluminum, used as a circuit material in condensers and semiconductors.



Alumina products

### ■ Battery Materials Business

We manufacture and sell separators for lithium-ion secondary batteries and cathode materials. Our separators have been highly esteemed by battery manufacturers for their outstanding heat resistance, reliability and safety, and demand is growing for applications such as in electric vehicles, because they are particularly suited for high-capacity batteries. At the plant of SSLM in South Korea established in the fall of 2016, we have expanded production capacity in stages. With regard to the cathode materials, we converted Tanaka Chemical Corporation into a subsidiary company in 2016. We are pushing forward with an expansion of production capacity and development of new products with high capacity and low electric resistance.



Pervio® separators for lithium-ion secondary batteries

#### Major Management Resources (Input)

##### Intellectual Capital

Sumitomo Chemical holds a basic patent for the aramid coating process. With this patent, we are able to provide added value to customers that is unlike that of ceramic separators from other companies.

##### Human Capital

Sumitomo Chemical has operators with advanced techniques and experience to produce high quality products. We are focusing on technical guidance from veteran to novice operators so as to pass on the techniques.



Inspecting separators at the Ohe Works

#### Value Chain



**Suppliers**  
Raw material manufacturers  
for base film and  
aramid resin



**Sumitomo Chemical  
Ohe Works**



**SSLM Co., Ltd.**

#### Major Processes Generating Competitive Advantages

**Production:** Sumitomo Chemical is not only conducting research and development of separators but also working on improving productivity. We are capable of applying a uniform aramid coating with industry-leading speed, while maintaining high quality. Productivity at the plant of SSLM in South Korea has tripled since 2015 due to factors such as more advanced techniques, accumulated experience, and improvements in coating equipment. We expect further productivity improvement in the future.

#### Sumitomo Chemical's Competitive Advantages

##### Competitive Conditions in the Market

The use of coated separators has become mainstream for automotive lithium-ion secondary batteries. In addition to Sumitomo Chemical's aramid separators, coated separators also include ceramic separators, and the majority of the several dozen separator manufacturers around the world manufacture ceramic separators. However, there are only a limited number of manufacturers capable of producing separators used for high capacity automotive batteries like ours.

##### Competitive Advantages

Since our aramid separator is superior to ceramic separators in safety (heat resistance) and can reduce the overall weight of an electric vehicle by a couple of kilograms, it is highly regarded by customers.

##### Initiatives to Enhance Competitive Advantages

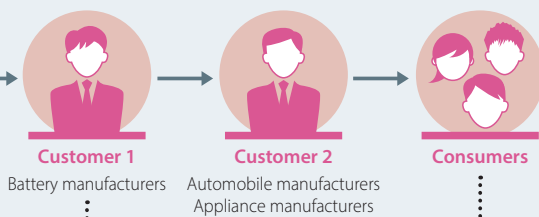
In order to further strengthen the superiority of our aramid separator, we are conducting research to enhance the strength of the separators and reduce their thickness. In addition, we are working on development to improve the performance of the separators by using the optimal composition of aramid resin.

#### Earnings Structure and Role in Driving Income

With the spread of eco-friendly vehicles, the separator market is also expanding. Sumitomo Chemical aims to expand sales through increased demand from existing customers and through reaching out to new customers. In addition, we are considering increasing the production capacity of our in-house base film, which offers outstanding cost competitiveness.

## Added Value Provided to Society

Sumitomo Chemical purchases raw materials such as base film and aramid resin, and produces aramid separators by coating the base film with aramid resin. Battery manufacturers combine them with other materials to produce lithium-ion secondary batteries. The final product is widely used in applications like electric vehicles and ESS (energy storage systems).



### Customer and Consumer Needs

Customers and consumers are demanding eco-friendly vehicles with long cruising ranges and low fuel consumption. Safe, high capacity batteries are indispensable for that sort of vehicle. For this reason, our direct customers, the battery manufacturers, seek to manufacture batteries that provide that performance at the lowest possible cost.

### Providing Customer Value

In order for battery manufacturers to make safe, high capacity products, Sumitomo Chemical provides thin separators with high heat resistance. Furthermore, we strive to improve productivity in order to provide products with outstanding cost competitiveness. In addition, the company elicits new needs from customers in regular meetings, and works to develop products to meet those needs.



### Contributing to Climate Change Countermeasures and the Spread of Eco-friendly Vehicles through the Separator Business

The shift to eco-friendly vehicles is accelerating due to the strengthening of environmental regulations around the world. Under these circumstances, separators are indispensable to the spread of these vehicles. Sumitomo Chemical contributes to climate change countermeasures through our separator business.

#### Sumika Sustainable Solutions

Separators, essential components in producing high density, high capacity and safe lithium-ion secondary batteries, have been designated as one of the Sumika Sustainable Solutions. Eco-friendly vehicles featuring lithium-ion secondary batteries can reduce energy consumption in comparison to gasoline-powered cars.



Pervio® separators for lithium-ion secondary batteries





出口 敏久

Toshihisa Deguchi  
Representative Director & Executive Vice President

## IT-related Chemicals

**Deliver New Value that Responds to the Changes in the ICT Industry by Leveraging Our Material Development Capabilities in Collaborative Development with Customers**

Sumitomo Chemical's IT-related Chemicals Sector contributes to innovation in display technology by providing display manufacturers with highly functional materials that contribute to improved display performance. In addition, the sector contributes to improved semiconductor performance and productivity by providing high-quality semiconductor materials to semiconductor manufacturers.

Locating our production centers near customer manufacturing sites, we strive to foster good relationships with customers, to be quick to determine their needs, and to build market needs-driven supply chains that reflect these needs in the development and supply of products. The advantages our company brings to this field are this development and supply approach, our material development capability as a diversified chemicals manufacturer, our product development ability, as well as our processing technology in the display materials business.

Now, in order to respond to the generational shift in display technology from LCD to OLED, we are working to expand our OLED business and transform the cost structure of our LCD components business. In addition, we are also focusing on developing semiconductor materials that support increasingly

sophisticated semiconductor manufacturing technology, as well as expanding our production capacity.

In fiscal 2017, we not only expanded sales of polarizing films for OLED displays, we also made progress in the development of components for flexible displays. As for LCD components, we built a new polarizing film factory in China. In addition, in the semiconductor materials field, where demand is expected to grow, we decided to expand production capacity for high-purity chemicals and photoresists for use in semiconductors.

Going forward, by developing new products and expanding production capacity at the appropriate times, we aim to expand our touchscreen panels business for OLED displays and polarizing film businesses. As for LCD components, we will continue to improve our cost competitiveness, and also aim to expand our business in the Chinese market, which is expected to grow. Moreover, we are working to pioneer new applications and develop new customers in the semiconductor materials business.

In this way, utilizing Sumitomo Chemical's strengths, we will expand the scale of our business and increase profitability by providing new materials and solutions that anticipate developments in the ICT industry.

| (Billions of yen)     | FY2017 | In Comparison to FY2016 | Corporate Business Plan FY2016-FY2018: Sector Goals FY2018 Target |
|-----------------------|--------|-------------------------|---|
| Sales revenue         | 368.7  | +10.2                   | 490.0   |
| Core operating income | 12.3   | +3.6                    | 34.0  |
| Sales revenue of SSS* | 120.3  | +10.7                   |   |

\* Sumika Sustainable Solutions

### Primary Focus SDGs



## Status of the Major Businesses



## Main Initiatives in the Major Businesses

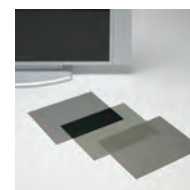
### ■ OLED-related Materials Business

Sumitomo Chemical offers OLED components, such as touchscreen panels and circular polarizing films. The company's main product is touchscreen panels, which are input units used in devices such as smartphones and tablets. The use of OLED displays in smartphones is expanding, and we are working to set up an optimal production system to meet demand for flexible-type touchscreen panels, which are becoming more common. Moreover, we also have manufacturing facilities for touchscreen panels that support foldable displays. Sumitomo Chemical will continue its focus on developing new products going forward, including flexible touchscreen panels, circular polarizing films, and window films. We will also work to develop new technologies that integrate the capabilities of these multiple materials into one material, expanding our OLED materials business. We are also working to commercialize polymer OLED materials that will enable the manufacture of large-scale OLED displays at low cost.



### ■ LCD-related Materials Business

Sumitomo Chemical offers a wide range of LCD components, including polarizing films, color filters, and color resists. We operate production facilities in various countries in East Asia, and have forged strategic partnerships as a prime supplier with major LCD panel manufacturers. In May 2018, we converted a polarizing film substrate manufacturing company in China into a subsidiary. We aim to ensure the sustainability of our LCD-related materials business by building an integrated production system, starting from substrates, for polarizing films in the Chinese market, where demand is expected to grow.



Polarizing films

### ■ Semiconductor Processing Materials Business

Sumitomo Chemical offers a variety of semiconductor materials, such as photoresists, aluminum sputtering targets, and high-purity chemicals used in semiconductor manufacturing, including sulfuric acid, ammonia water, and hydrogen peroxide solution. Photoresists are photosensitive resins used in semiconductor manufacturing processes. As semiconductor manufacturers are adopting processes to etch finer circuits, we are working to develop cutting-edge ArF immersion photoresists, and have the largest share of the global market for this product. We will expand the business by quickly developing state-of-the-art materials that meet customer needs.



Photoresists

### Major Management Resources (Input)

#### Intellectual Capital

Sumitomo chemical conducts research and development based on compound synthesis technology developed through the development of a wide range of products as a diversified chemical manufacturer.

#### Social and Relationship Capital

We connect product design with a timely grasp of customer needs, using relationships of trust with customers developed over many years.



### Value Chain

#### [OLED Displays Currently on the Market]

Sumitomo Chemical manufactures liquid crystal coated-type retardation film based on proprietary technology, processes it into the final product, circularly polarizing film and ships it to customers.



Raw material  
manufacturers



Sumitomo Chemical Group  
(including subcontractors)

### Major Processes Generating Competitive Advantages

**Research:** Sumitomo Chemical is conducting research on liquid crystal materials that can coat films. In order to produce phase contrast and polarizing functionality using liquid crystal materials, the liquid crystal molecules that are the raw material must be systematically oriented in a specific direction. Sumitomo Chemical is working to develop molecular designs that will achieve this. Moreover, the company is also devising production processes to manufacture the newly developed liquid crystal material and coat it onto film without harming its functionality.



### Sumitomo Chemical's Competitive Advantages

#### Competitive Conditions in the Market

Several companies that manufacture polarizing film are competing to improve quality in anticipation of adoption for use in flexible OLED displays.

#### Competitive Advantages

Sumitomo Chemical's unique strength is a liquid crystal material that can be used to coat circularly polarizing film for OLED displays. This liquid-crystal material, developed in-house, offers outstanding functionality, including preventing reflections from light sources such as sunlight or indoor lighting, and displaying real blacks that do not change color no matter what angle they are viewed from. For this reason, they contribute to the creation of OLED displays with extremely high image quality.

#### Initiatives to Enhance Competitive Advantages

Sumitomo Chemical is pushing ahead every day on the development of liquid crystal materials that will contribute to even better image quality for OLED displays. In addition, in order to meet demand that is expected to grow in the future, the company is considering economically superior synthesis processes and manufacturing facility, with the goal of also improving cost competitiveness.

### Earnings Structure and Role in Driving Income

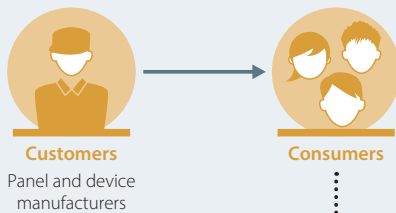
The market for OLED displays (on a revenue basis) is expected to expand even further going forward. It is anticipated that in 2025, the OLED TV market will be five times its current level, while the market for smartphones using OLED displays will be about 1.4 times its current level. Sumitomo Chemical will increase its earnings capacity by expanding sales and improving productivity.



## Added Value Provided to Society

### [Next-generation Flexible Displays]

We provide panel manufacturers with circularly polarizing film featuring liquid crystal coated-type retardation film, and the panel manufacturers work to develop foldable displays, which are expected to be the next-generation display technology.

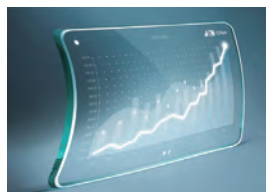


### Customer and Consumer Needs

Customers are continuing to develop foldable smartphones, which have not yet been launched, and devices using panels that can be rolled up like paper or cloth. Because this cannot be done using existing circularly polarizing films, panel manufacturers need a next-generation circularly polarizing film.

### Providing Customer Value

Customers are designing next-generation displays in order to create entirely new devices. For this reason, Sumitomo Chemical is working with customers to repeatedly conduct trial and error process for circularly polarizing film, which is a component of these new devices, in an effort to provide the performance customers need in terms of thinness and strength when bent.

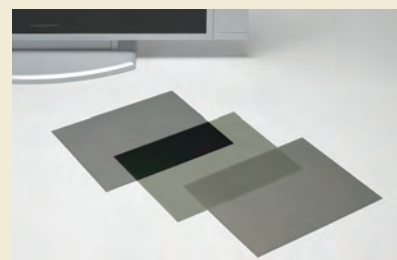


### Creating More Affluent and Convenient Lives for People

By developing and manufacturing circularly polarizing films for OLED displays, Sumitomo Chemical is contributing to the creation of entirely new products. The company will continue to provide new materials and solutions going forward, enabling people to lead more affluent and convenient lives.

### Sumika Sustainable Solutions

The UV adhesive curing process in polarizing film manufacturing is designated as Sumika Sustainable Solutions. Manufacturing polarizing film, which is made by pasting together multiple sheets of film, previously used a great deal of electricity for the superheated drying process for the water-soluble glue. By adopting a UV adhesive curing process that uses ultraviolet curing technology, Sumitomo Chemical was able to significantly reduce the amount of power consumed in this process.



Polarizing films



## Health & Crop Sciences

Contribute to Solving Global Issues related to Food, Health, Hygiene, and the Environment by Leveraging Our Excellent Research and Development Capabilities

西本

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Ray Nishimoto

Representative Director & Senior Managing Executive Officer

Sumitomo Chemical's Health & Crop Sciences Sector contributes to improving food productivity around the world by providing such specialized solutions as crop protection and enhancement products, agricultural materials, and methionine.

Sumitomo Chemical globally distributes not only excellent chemical crop protection products developed in-house, but also unique biorational crop protection/enhancement products and post-harvest solutions with high market shares. In addition to our range of unique crop protection products and the research and development capabilities that have been creating them, the strength of Sumitomo Chemical's crop protection and enhancement business lies in its global distribution channels. And in our methionine business, Sumitomo Chemical offers a stable supply, with integrated production from raw materials using advanced production technology.

Currently, Sumitomo Chemical is working on further enhancing the strength of our crop protection products and agricultural materials, expanding our global footprint (our own distribution network), and maximizing earnings of existing products. In addition, we plan to increase our methionine production capacity, solidifying our position as the leader in this business in Asia.

In fiscal 2017, we continued development of next-generation

crop protection products and filed registration applications for some of those products. In addition, in order to maximize sales of those products, we have agreed to enter into new collaborative arrangements with major crop protection companies (Bayer, BASF, Corteva Agriscience™) for development and commercialization. We also acquired several businesses in order to further enhance our competitiveness both in the biorationals business and in the household and public hygiene insecticide business, where Sumitomo Chemical has strengths.

Sumitomo Chemical aims to accelerate the development of next-generation crop protection products to enable the earliest market launch, and will also work on expanding our biorational and post-harvest businesses where we have competitive advantages. Furthermore, we will seek to expand our business opportunities further by strengthening collaborations with our partners from which we have acquired shares or with which we have formed alliances. We are also working to further strengthen our sales structure before the new methionine plant begins operations in fiscal 2018.

We aim to expand the scale of our businesses by contributing to solving global issues related to food, health, hygiene, and the environment by leveraging our research and development capabilities.

| (Billions of yen)     | FY2017 | In Comparison to FY2016 | Corporate Business Plan FY2016-FY2018: Sector Goals FY2018 Target |
|-----------------------|--------|-------------------------|---|
| Sales revenue         | 339.7  | +19.1                   | 440.0   |
| Core operating income | 44.0   | -3.5                    | 89.0  |
| Sales revenue of SSS* | 116.5  | +10.5                   |   |

\* Sumika Sustainable Solutions

### Primary Focus SDGs



## Status of the Major Businesses

- Excellent research and development capabilities and robust pipeline both in chemicals and biorationals
- Differentiated technologies and products in niche areas
- Products with high market share
- Alliances with major multi-national players
- Offering total solutions in Japan

- Increasing food demand due to the growing global population
- Growing agriculture-related businesses
- Opportunities in peripheral and downstream businesses of the household insecticide business



- Relatively small business size compared to the competing majors
- Need to strengthen global sales channels

- Tightening of the regulations on crop protection chemicals
- Increased competition with off-patent crop protection chemicals
- Consolidation in the major agrochemical companies

## Main Initiatives in the Major Businesses

### ■ AgroSolutions Business

In our crop protection and fertilizer business in Japan, we are aiming to increase our market share and broaden the scope of our business by developing attractive new products in-house, in-licensing new products, etc. We also offer comprehensive support for farmers' operations, from production to sale, by providing a wide range of agriculture-related supplies, technologies, and know-how. As part of our business as a total solutions provider, we engage in the rice business to produce and sell rice.

Meanwhile, we are enhancing collaboration and increasing investments to expand our overseas agrosolutions business. Besides mutually distributing crop protection products with Australian crop protection company Nufarm Limited, in which Sumitomo Chemical has an 18% stake, in 31 countries (as of June 2018), we are actively collaborating with several major crop protection companies in both distribution and development. We are also globally working to further strengthen research and development capabilities around the world, in order to accelerate the development of crop protection and enhancement products. In 2018, we begin operations of newly established Chemistry Research Center as our global discovery and innovation research and development base, and Biorational Research Center in North America as a research and development base for our biorational business.



Agrosolution products

### ■ Environmental Health Business

Our environmental health business contributes to safe and comfortable living environments through its worldwide businesses in

household and public hygiene insecticides, products for control of infectious diseases, and ectoparasitides for use in the animal health field.



Household insecticides

### ■ Feed Additives Business

Our feed additives business engages in the manufacture and sale of methionine, which is an essential amino acid used primarily as a feed additive in chicken and other poultry farming. The global methionine market is estimated at 1.3 million tons annually, and is expected to grow at an annual rate of about 6% due to the growth of the world population and the spread of meat-eating cultures in emerging countries. To consolidate our position as Asia's top producer, we will increase our production capacity for methionine by 100,000 tons, to 250,000 tons a year in 2018, aiming to expand sales to good-standing new customers.



DL-methionine, Methionine hydroxy analog

### ■ Pharmaceutical Chemicals Business

We supply pharmaceutical companies in Japan and overseas with APIs and their intermediates. We aim to further expand our business by conducting contract manufacturing of oligonucleotides for nucleic acid therapeutics. (Nucleic acid therapeutics are an emerging class of therapeutics for treating unmet medical needs. They are capable of targeting a disease at the genetic level by preventing the expression of disease-causing proteins.)



Active pharmaceutical ingredients (APIs)



#### Major Management Resources (Input)

##### Intellectual Capital

Sumitomo Chemical is conducting research and development based on the knowledge regarding chemical and biorational crop protection products, which it obtained after its many years of research and development activities.

##### Human Capital

Personnel located around the world are conducting research and development using a global network.



The Chemistry Research Center, a global discovery and innovation base for the Health and Crop Sciences Sector

#### Value Chain



Raw material producers

Valent Biosciences LLC, Osage Plant



Sumitomo Chemical Group  
Production of compounds and formulations

#### Sumitomo Chemical's Competitive Advantages

##### Competitive Conditions in the Market

There are many producers in the global crop protection market, from major producers in the US and Europe to comparatively small producers. Crop Protection products differ significantly in needs by region and crops. Sumitomo Chemical pursues unique positioning in various markets around the world, by using its product portfolio consisting of chemical and biorational products for crop protection and enhancement.

##### Competitive Advantages

Sumitomo Chemical is committed to research and development, working on everything from the discovery of novel lead compounds to the product development for end users from a long-term perspective in order to provide new solutions. These efforts enable Sumitomo Chemical to obtain proprietary products and technologies, which is the foundation of its competitive advantages.

##### Initiatives to Enhance Competitive Advantages

In 2018, Sumitomo Chemical established Chemistry Research Center, a synthesis research building at the Health & Crop Sciences Research Laboratory. Research functions ranging from the compound discovery to the commercial process development have been integrated in this new research building, in an effort to promote more efficient and speedier development. In addition, the company established a research center in Brazil in 2016 and a field testing station in the western US in 2017, where tests are conducted in a wider range of environments and therefore development of new products is accelerated.

#### Major Processes Generating Competitive Advantages

**Research:** In discovery research, Sumitomo Chemical searches for active ingredients for new crop protection products. In this process, we evaluate not only a compound's efficacy but also its safety for people and the environment. We utilize our global research and development network so as to develop new solutions as soon as possible. In addition, we are also putting effort into product development for new formulations and applications of existing active ingredients.



Health & Crop Sciences Research Laboratory

#### Earnings Structure and Role in Driving Income

The scale of the global crop protection market is about USD60 billion, and it is expected to grow at an annual rate of about 3%. In order to improve its earnings rate, Sumitomo Chemical aims to continuously launch highly effective products that meet the needs of the market, using the advanced technology obtained in research and development. In 2017, we continued to make progress on the development of next-generation crop protection products and submitted registration applications for some of these new products, which are planned to be launched in 2020 and beyond.

## Added Value Provided to Society

Sumitomo Chemical provides crop protection products through research and development, registrations, and manufacturing. These products are sold through wholesalers and retailers, and are used by farmers.



**Customers**

Wholesalers, retailers,  
agricultural cooperatives



**Customers**

Farmers

### Customer and Consumer Needs

Farmers use crop protection products as they hope to improve the quality and yield of their agricultural crops. In addition, they also expect to make farming work more efficient, and improve profitability. At the same time, they also pursue safety and security, hoping that the crop protection products will not harm either their health or that of the consumers of the agricultural products.

### Providing Customer Value

Sumitomo Chemical offers unique, effective products that meet customer needs and creates solutions that match the needs of every region and crop, which contribute to developing new, sustainable agricultural technologies.



Training on using biorationals

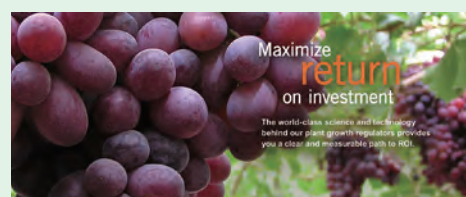


### Contributing to a Stable Food Supply by Improving Agricultural Productivity

With the growth in the world population and the development of the global economy, the need for a safe and secure food supply has been increasing. The crop protection and enhancement products Sumitomo Chemical provides around the world are aiming to contribute to a stable food supply by improving agricultural productivity.

#### Sumika Sustainable Solutions

Plant growth regulators (PGRs), a set of the products from a Sumitomo Chemical's global agrosolutions business, have been certified as Sumika Sustainable Solutions. PGRs have such effects as improving fruit set, size and quality of fruits and vegetables. In addition, as the timing of flowering and ripening of crops can be adjusted by PGRs, they are effective in cultivating crops in areas where cooling or droughts caused by climate change has progressed, thereby contributing to an increase in food production around the world.



From Valent Biosciences' product summary



## Pharmaceuticals

**Contribute to the Improvement of People's Quality of Life through R&D-oriented Innovative Drug Discovery Research**

| (Billions of yen)     | FY2017       | In Comparison to FY2016 | Corporate Business Plan FY2016-FY2018: Sector Goals FY2018 Target |
|-----------------------|--------------|-------------------------|---|
| Sales revenue         | <b>500.2</b> | +59.3                   | <b>490.0</b>  |
| Core operating income | <b>94.8</b>  | +24.9                   | <b>65.0</b>   |

### Main Initiatives in the Major Subsidiaries

#### ■ Sumitomo Dainippon Pharma

Sumitomo Dainippon Pharma Co., Ltd. is working to realize its vision of "Aspire to be a globally active R&D-based company" and "Contribute to medical care through leading-edge technologies," while advancing initiatives aimed at medium- to long-term business growth, and always looking one step ahead of the times.

In its development of new drugs, which is a driver of business growth, Sumitomo Dainippon Pharma aims to continually create outstanding new drugs, conducting research and development activities incorporating cutting-edge technology with a number of methods, including not only its own internal research in focus areas with unmet medical needs, such as psychiatry & neurology, oncology, and regenerative medicine and cell therapy, but also the introduction of technology from other companies and joint research with biotech companies and academia.

In April 2018, the company was able to launch LONHALA® MAGNAIR® in the US market, a treatment for chronic obstructive



pulmonary disease (COPD) administered using a portable nebulizer. In addition, new drug applications in the US have also been submitted for dasotraline (attention-deficit hyperactivity disorder (ADHD)), and APL-130277 (OFF episodes associated with Parkinson's disease), for which significant sales are expected, and the company hopes to receive approval for both during fiscal 2018.

Furthermore, the company is also developing anticancer drugs napabucasin and amcasertib, which were added to the company's development pipeline by the 2012 acquisition of Boston Biomedical, Inc. Because napabucasin and amcasertib are designed to inhibit cancer stemness pathways, they may provide a new therapeutic option against the challenges in cancer treatment, such as treatment resistance, recurrence, and metastasis.

In its efforts to utilize cutting-edge technology, the company is applying iPS cell technology to drug discovery, while also working on research and development of regenerative medicine and cell therapy. In the US, it is working with SanBio, Inc. to conduct a Phase IIb clinical trial of a cell therapy product

## Status of the Major Businesses

- Drug research platform in the areas of psychiatry & neurology and oncology
- Relationships with academia and biotech companies
- Development pipeline for psychiatry & neurology, oncology, and regenerative medicine and cell therapy
- The world's first commercial manufacturing plant dedicated to allogeneic iPS cell-derived products

- Innovation in healthcare technology
- Increasing health awareness



- Limited capabilities to bear the heavy burden of R&D costs
- Emergence of generic drugs due to the expiration of main drug patents

- Accelerated implementation of medical expense control measures in Japan
- Changes in the health insurance systems overseas
- Consolidation in the pharmaceutical industry

for chronic stroke. The company is also working with universities and research institutes to develop cell therapy products for age-related macular degeneration, Parkinson's disease, retinitis pigmentosa, and spinal cord injury. In fiscal 2017, the world's first commercial manufacturing plant dedicated to allogeneic iPS cell-derived regenerative medicine and cell therapy products, called the Sumitomo Dainippon Manufacturing Plant for Regenerative Medicine & Cell Therapy (SMaRT), began operations. Regenerative medicine and cell therapy is a field where Japan has the potential to lead the world. Sumitomo Dainippon Pharma is taking on the challenge of continuing to develop products that can address unmet medical needs.



Sumitomo Dainippon  
Manufacturing Plant for Regenerative  
Medicine & Cell Therapy (SMaRT)

### ■ Nihon Medi-Physics

Nihon Medi-Physics Co., Ltd. (NMP) is a leading company in Japan in the highly specialized field of nuclear medicine.

NMP engages in the development, manufacture, and sale of radiopharmaceuticals, which are used for diagnosis of disease conditions and post-therapy evaluation, chiefly for malignant tumors and brain and heart diseases. In addition to diagnostic pharmaceuticals, NMP also offers therapeutic products, such as a medical device for brachytherapy for prostate cancer, and a radiopharmaceutical that provides pain relief for cancer patients suffering from bone metastasis.

The Company's main product is FDG scan Injectable for PET (positron emission tomography) procedures, which are

effective in the early detection of malignant tumors. Because the half-life of the radioisotope ( $^{18}\text{F}$ ) used in this product lasts for an extremely short time of about two hours, NMP has established production facilities in major regions across Japan in order to ensure swift and reliable delivery to various medical institutions after manufacturing. In March 2018, the eleventh manufacturing facility for PET products was completed in Toyama prefecture.

In November 2017, NMP began sales of Vizamyl®, an imaging agent used in amyloid PET scans. An amyloid PET scan can evaluate the possibility of Alzheimer's as a cause of dementia, and thus it is expected to contribute to the diagnosis of dementia.

In addition, when the Japan Agency for Medical Research and Development (AMED) was accepting projects under its Cyclic Innovation for Clinical Empowerment (CiCLE) program, one of the research topics adopted for support was the development of diagnostic agents using the Theranostics concept. As part of this research topic, NMP will not only prepare a drug discovery facility to put into practice the Theranostics concept, which aims to bring together diagnostics and therapeutics, it will also develop antibody-labeled therapeutic drugs as well as their companion diagnostics. This is expected to contribute to efficient and effective cancer treatment.

As a leading company in the field of nuclear medicine, NMP will continue to work to develop new diagnostic pharmaceuticals.



SPECT diagnosis



## System for Providing Added Value

## Major Management Resources (Input)

## Intellectual Capital

Research and development capabilities, in order to discover new drugs, and intellectual property, such as patents and licenses, are the source of income.

## Social and Relationship Capital

Not only do good relationships with institutions such as universities and other institutions contribute to the development of new drugs, good relationships with regulators and those in the medical field support global business development.

## Human Capital

Outstanding personnel support all business activities, including the research and development of new drugs, production, and sales.

## Value Chain



Suppliers

Chemical manufacturers  
Manufacturers of drug raw materials  
and intermediate materials



Sumitomo Dainippon Pharma

## Sumitomo Dainippon Pharma's Competitive Advantages

## Competitive Conditions in the Market

The global pharmaceutical market is over \$1.1 trillion, and has grown at an annual rate of about 3% over the last five years.\* Within that, significant market growth is expected in the specialty pharmaceutical market, aimed at specific illnesses and requiring a prescription from a specialist. Numerous pharmaceutical manufacturers are participating in this massive market, particularly in the US and Europe, engaging in fierce competition in the development of new drugs.

## Competitive Advantages

Although the scale of Sumitomo Dainippon Pharma is small compared to major global pharmaceutical manufacturers, the company has strong research and development capabilities in the psychiatry & neurology area, where it has built up knowledge over many years. In addition, by concentrating management resources into research and development in the oncology area, where there are many unmet medical needs, the company aims to discover revolutionary new drugs. Moreover, the company is a global leader in research and development in regenerative medicine and cell therapy, which is attracting attention as a next-generation treatment method.

## Initiatives to Enhance Competitive Advantages

Sumitomo Dainippon Pharma aims to accelerate the discovery of groundbreaking new drugs by appointing a project leader for each drug discovery project in the psychiatry & neurology area and transferring significant authority to these leaders. In oncology area, the company is conducting research and development through a collaboration between the company and two US-based subsidiaries. In the regenerative medicine/cell therapy field, the company is not only moving ahead with projects with collaborators in industry and academia, it has also completed work on, and launched operations at, the world's first commercial manufacturing plant dedicated to allogeneic iPS cell-derived regenerative medicine and cell therapy products.

## Major Processes Generating Competitive Advantages

**Research:** By searching for candidate compounds for new drugs, Sumitomo Dainippon Pharma takes on the first step of drug discovery. It not only works to promote innovation within the company, it also actively promotes joint research with research institutions, such as universities inside and outside Japan, as well as alliances with biotech companies, working to discover revolutionary treatments.

**Development:** The company scientifically evaluates the effectiveness and safety of development candidates discovered in the laboratory through preclinical and clinical studies. It aims to efficiently promote development, and obtain speedy approval of new drugs.

**Production and Quality Management:** The company provides stable supplies of pharmaceuticals of reliable quality. In addition, it maintains a quality assurance system supporting the safety and security of its pharmaceuticals.

**Sales and Information Provision:** The company has sales locations in Japan, the US, and China, providing information necessary for the appropriate use of its pharmaceuticals.

## Earnings Structure and Role in Driving Income

While pharmaceuticals discovered in-house can provide high returns in the period when exclusive sales are possible due to patents or other intellectual property, profitability deteriorates significantly once a patent has expired. For this reason, Sumitomo Dainippon Pharma hopes to maintain and improve income by continually developing and launching new drugs.

\* (Source) Created based on the IQVIA World Review 2008-2017, Copyright © 2018 IQVIA (unauthorized copying and reproduction prohibited)  
(Source) Japan Pharmaceutical Manufacturers Association DATA BOOK 2018

## Added Value Provided to Society

Sumitomo Dainippon Pharma manufactures the pharmaceuticals it has developed using raw materials, including medical raw materials and intermediate materials, and then supplies them to hospitals and pharmacies via pharmaceutical wholesalers. In addition, it makes pharmaceutical information available to medical professionals so that its pharmaceuticals will be used appropriately.



### Customer and Consumer Needs

Medical professionals and patients demand pharmaceuticals with higher therapeutic effectiveness, fewer side effects, and in easier to use forms. In addition, there is a strong demand for the development of new drugs for diseases that have no effective treatment method at the present time. Moreover, it is also essential to provide information leading to safer and more effective treatment of illnesses, enabling medical professionals to appropriately use the pharmaceuticals.

### Providing Customer Value

Sumitomo Dainippon Pharma is concentrating research and development resources into the fields of psychiatry & neurology, oncology, and regenerative medicine and cell therapy, where unmet medical needs are high. By discovering new revolutionary drugs, the company aims to contribute to improved quality of life for patients. In addition, the company earns the trust of medical professionals by both providing a stable supply of the pharmaceuticals it discovers, and by providing timely and accurate information about those pharmaceuticals.



### Contributing to the Development of Medicine and Improved Quality of Life for Patients

Sumitomo Dainippon Pharma contributes to the treatments of patients with a variety of illnesses by providing high-quality pharmaceuticals and pharmaceutical information. In addition, the company contributes to the development of medicine by generating further innovation through collaboration with organizations in academia and with biotech companies. Furthermore, the company also works to provide healthcare in countries and regions where receiving necessary medical treatment is difficult, both through research and development of its own products and through collaboration with such bodies as government institutions and international organizations.



### Sumitomo Dainippon Pharma

#### Primary Focus SDGs

