

## MANAGEMENT'S DISCUSSION AND ANALYSIS

## Analysis of Operating Results

## Overview of FY2015, ended March 31, 2015

In the year under review, the JSR Group faced an environment in which raw material prices fell in conjunction with a sharp decline in oil prices in the second half, and the market for our products worsened. In addition, the value of the yen fell substantially as we entered the second half. On the other hand, global output increased in the automobile tire and automobile industries, two of the main industries represented by our customers. Demand was also strong across the board in semiconductors, especially demand related to multifunctional mobile devices such as smartphones and tablet computers. Also, production of flat panel displays (FPD) was strong on demand for large-screen TVs.

Under these circumstances, the JSR Group achieved net sales at roughly the same level as the previous fiscal year, while operating income fell substantially below its prior-year value. In the Petrochemical Products Business, demand grew globally, with the main drivers in the Elastomer Business segment. Spreads tightened and market conditions deteriorated in East Asia, in particular, as excess supply made the demand-supply balance less favorable. In the Fine Chemicals and Other Products Business, the Semiconductor Materials and Display Materials Business segments, rising sales were underpinned by strong semiconductor and FPD markets. In addition, the JSR Group's withdrawal from the unprofitable precision materials and processing field helped boost earnings. Net sales rose over the previous fiscal year while operating income was well over the previous year's performance, which helped offset underperformance in the Petrochemicals Products Business. Ordinary income was also up versus the previous fiscal year, but deteriorating income at a petrochemicals equity affiliate detracted from net income.

Financial results for FY2015 consist of net sales of ¥404,073 million (up 2.5% year on year), operating income of ¥38,068 million (up 5.6%), ordinary income of ¥41,609 million (up 5.0%), and net income of ¥29,919 million (up 18.9%).

## Review of Operations

*Elastomers Business Segment*

In the automobile tire industry, one of our chief sources of demand, production in North America and China rose year on year, while Europe had only a small increase, and production in Japan remained constant.

Under these conditions, sales of synthetic rubber products were affected by a brief delay in the startup of Solution Styrene-Butadiene Rubber (S-SBR) at a Thailand joint venture. This venture is now steadily approaching full production. However, due to such factors as the flat year-on-year production of automobile tires in Japan, the overall sales volume for elastomers was down slightly. For the segment, net sales were roughly at the same level as the previous fiscal year, as weak market conditions continued. These results were also affected by yen depreciation and the effect of price revisions in the face of rising raw material prices in the first half. However, a global deterioration in the demand-supply balance for synthetic rubber and butadiene has caused spreads to erode as the synthetic rubber market weakens, resulting in lower sales volume. These conditions, together with higher expenses for periodic maintenance, led to a sizable year-on-year fall in operating income.

As a result, the Elastomers Business segment had net sales of ¥198,958 million (down 2.2% year on year) and operating income of ¥10,736 million (down 38.1%).

*Plastics Business Segment*

Automobile production, a major demand driver for the JSR Group's products, increased year on year in North America and China, but remained generally flat in Europe while in Japan it was affected by the revision to the consumption tax. On the whole, worldwide production fell year on year.

Under these circumstances, plastics sales volumes were below last year's level, due to lower automobile production in Japan and decreased business in industrial materials, including those for construction and general applications. Sales by value were aided by yen

## Segment Sales/Operating Income (¥ millions)

Years ended March 31	2011	2012	2013	2014	2015
Elastomers Business	¥160,854	¥180,835	¥195,797	¥203,478	<b>¥198,958</b>
Operating income	14,739	19,358	17,923	17,330	<b>10,736</b>
Plastics Business	52,297	51,236	51,759	57,764	<b>55,161</b>
Operating income	2,563	2,138	2,962	3,919	<b>2,842</b>
Fine Chemicals and Other Products Business	127,515	117,876	123,931	133,067	<b>149,954</b>
Operating income	21,793	14,468	14,321	14,813	<b>24,490</b>
Net Sales	340,666	349,947	371,487	394,309	<b>404,073</b>
Operating income	¥ 39,095	¥ 35,964	¥ 35,206	¥ 36,062	<b>¥ 38,068</b>

depreciation and the effects of price revisions in conjunction with rising material prices in the first half, but this was unable to make up for the fall in volume; thus, net sales fell as a result. Operating income fell year on year due to the large impact of this sales decline, despite the improving profit picture towards the end of the year.

Owing to these factors, the Plastics Business segment had net sales of ¥55,161 million (down 4.5% versus the previous fiscal year) and operating income of ¥2,842 million (down 27.5%).

### **Fine Chemicals and Other Products Business Segment**

The Fine Chemicals and Other Products Business segment achieved net sales and operating income higher than the previous fiscal year's.

In semiconductor materials, net sales rose year on year, driven by robust semiconductor demand in addition to the full-scale launch of volume production among major customers in leading edge 20nm processing, where JSR boasts a high market share. In display materials, steady demand for multifunctional mobile devices and large-screen TVs, particularly the market growth associated with the trend towards larger TV screen, resulted in a year-on-year increase in net sales.

Key results in the segment were net sales of ¥149,954 million (up 12.7% year on year) and operating income of ¥24,490 million (up 65.3%).

### **Business Outlook for FY2016**

JSR Group's FY2016 outlook for its main customer industries is as follows. In the automobile tire and automobile industries, we do not expect major growth in Japan from last year's level, but do expect strong global growth especially in China and Southeast Asia, and even expect Europe and America to show some growth. In semicon-

ductors, we expect new demand to emerge for multifunctional mobile devices spurred by the active use of big data, and therefore our favorable outlook remains in place. We also believe that the FPD market will show improved strength as the trend towards large-screen TVs progresses along with the production of medium- to small-size panels for multifunctional mobile devices.

In the Elastomers Business segment, global demand growth is expected to expand, but due to the fall in crude oil prices and the slowness at which the supply-demand balance for synthetic rubber and butadiene is improving, we believe market conditions will continue to be soft. In this environment, steady increases can be expected in demand for S-SBR as the eco-tire market grows. Accordingly, we plan to expand global sales through use of the new factory in Thailand, which has now reached full production.

In the Fine Chemical and Other Products Business, we plan to expand sales of semiconductor materials focusing on greater sales of lithographic materials for 14nm processes, the successor to today's leading-edge 20nm generation, as this new generation hits full steam. In the Display Materials Business segment, we have been responding to the movement towards large-screen TVs and ultra-precision LCD panels. We are also moving ahead with business expansion in China, where we expect to see future growth.

In consideration of the above, our consolidated earnings outlook for FY2016 consists of net sales of ¥420 billion (3.9% year-on-year increase), operating income of ¥41 billion (7.7% increase), ordinary income of ¥42 billion (0.9% increase), and profit attributable to owners of parent of ¥31 billion (3.6% increase). The assumptions behind this forecast are an exchange rate of ¥115 JPY per U.S. dollar and a naphtha price of ¥50,000 per kiloliter.

## **Analysis of Financial Position**

Total assets at the fiscal year ended on March 31, 2015, amounted to ¥534,592 million, up ¥33,272 million from a year earlier.

Current assets totaled ¥319,397 million, down ¥7,107 million, due to increases in cash and deposits and decreases in and notes and accounts receivable—trade and securities.

Noncurrent assets totaled ¥215,195 million, up ¥40,379 million. Major factors were an increase in investment securities as a result of capital contributions in Japan and overseas and changes in the market value of certain securities in addition to an increase in plant, property and equipment as a result of plant construction at a joint

venture in Thailand.

Total liabilities amounted to ¥169,918 million, up ¥5,858 million from a year earlier. Major factors include an increase in long-term loans payable and a decrease in notes and accounts payable—trade.

Net assets amounted to ¥324,321 million, including an ¥11,287 million increase in shareholders' equity. Accumulated other comprehensive income was ¥33,981 million, up ¥15,731 million year on year. After subscription rights to shares and minority interests are also accounted for, total net assets come to ¥364,674 million, up ¥27,414 million.

## **Analysis of Cash Flows**

Cash and cash equivalents ("funds") on March 31, 2015, stood at ¥77,906 million, down ¥13,208 million from a year earlier.

Net cash provided by operating activities was a net inflow of

¥51,481 million, up ¥16,005 million from a year earlier. Major factors include income before income taxes and minority interests of ¥41,069 million, depreciation of ¥17,407 million, decrease in notes and ac-

counts receivable—trade of ¥8,875 million, decrease in notes and accounts payable—trade of ¥15,565, and income taxes paid of ¥12,680 million.

Net cash from investing activities was a net outflow of ¥54,836 million, an additional outflow of ¥63,057 million from the previous year. Major factors include expenditures of ¥32,542 million for the purchase of non-current assets, ¥11,300 million for investment

securities, and ¥5,743 million for purchase of shares of subsidiaries resulting in change in scope of consolidation.

Net cash used in financing activities was a net outflow of ¥12,359 million, up ¥4,236 million from the previous year. Major factors include ¥10,272 million for purchase of treasury shares, ¥9,136 million for cash dividends paid, and ¥9,102 million for proceeds from long-term loans payable.

## Profit Appropriation

The Company regards its most critical challenge as the long-term enhancement of business performance. To this end, we strive to strengthen our research and development from a long-term standpoint and intend to enhance our business competitiveness through new business expansion.

In consideration of business earnings and long-term demand for finances, the JSR Group takes into account the balance between returning profits to shareholders and retaining earnings for future Company growth and will continue to pay a stable cash dividend.

Our policy with respect to returning profits to shareholders is to supplement the payment of cash dividends with the flexible execution of the purchase of Company shares, while taking into account the market environment. Retained earnings shall be appropriated to various investments that contribute to the enhancement of corporate

value while leading to new growth. In the period covered by the medium-term business plan, JSR20i6 (“JSR twenty-sixteen”), we aim for a combined return to shareholders, including both share buybacks and cash dividends, of 50% or greater.

In accordance with this policy, we have decided to pay a year-end dividend of ¥20 per share as previously announced. This amount is the same as the interim dividend, and the total annual dividend for fiscal year 2015, including the interim dividend already paid, will be ¥40 per share.

For the next fiscal year (FY2016 ending on March 31, 2016), in consideration of the business outlook, we plan to increase the cash dividend to ¥50 per year, consisting of an interim dividend of ¥25 and a year-end dividend of ¥25.

## Risk Information

The JSR Group is exposed to the following risks that may impact on operating results, financial position, cash flows and other aspects of performance. Forward-looking statements in this discussion are based on JSR’s judgments as of March 31, 2015. Risks at JSR include, but are not limited to, the following items:

### **(1) Changes in Demand due to Economic Trends**

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

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

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

### **(3) Fluctuation in Exchange Rates**

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

### **(4) Procurement of Raw Materials**

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

### **(5) Development of New Products**

Rapid technological progress is constantly taking place in the electronics industry, which is the primary source of demand for semicon-

ductor manufacturing materials, FPD materials and optical materials, the major products of the JSR Group's fine chemicals and other products business. JSR is constantly working on developing state-of-the-art materials in line with this progress. However, unforeseen changes in the industry or market could prevent the timely development of new products and adversely affect the JSR Group's operating results.

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

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

#### **(7) Protection of Intellectual Property**

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

#### **(8) Product Quality Assurance and Product Liability**

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

#### **(9) Natural Disasters and Accidents**

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

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

#### **(10) Environmental Issues**

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

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

#### **(11) Overseas Operations**

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

#### **(12) Laws and Regulations**

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

#### **(13) Litigation**

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