ACHIEVING SUSTAINABLE GROWTH THROUGH INNOVATION

ANNUAL REPORT 2018

Our Mission

We will satisfy all stakeholders

We at the Showa Denko Group will provide products and services that are useful and safe and exceed our customers' expectations, thereby enhancing the value of the Group, giving satisfaction to our shareholders, and contributing to the sound growth of international society as a responsible corporate citizen.

Forward-Looking Statements:
This annual report contains statements relating to management's projections of future profits, the possible achievement of the Company's financial goals and objectives, and management's expectations for the Company's product development program. The Company cannot guarantee that these expectations and projections will be realized or correct. Actual results may differ materially from the results anticipated in the statements included herein due to a variety of factors, including, but not limited to, the economic conditions, costs of naphtha and other raw materials, demand for our products such as graphite electrodes and other commodities, market conditions, and foreign exchange rates. The timely commercialization of products under development by the Company may be disrupted or delayed by a variety of factors, including market acceptance, the introduction of new products by competitors, and changes in regulations or laws. The foregoing list of factors is not inclusive. We undertake no obligation to update the forward-looking statements unless required by law.

Profile

Ranked as one of Japan's leading chemical companies, Showa Denko K.K. (SDK) operates in six major segments: petrochemicals, chemicals, electronics, inorganics, aluminum, and others.

Aiming to achieve continuous growth of the Showa Denko Group through execution of the medium-term business plan Project 2020+ (2016-2018), the Group reformed the business structure, strengthened the revenue base, and enhanced its corporate value.

The Group started the new medium-term business plan The TOP 2021 from January 2019. It is very important for us to enhance the value of the Group and satisfy all stakeholders including shareholders, customers, suppliers, local communities, and employees so that the Group grows continually and becomes trusted and acclaimed by society. We define this idea as the Group's business philosophy, thereby promoting management to maximize value for shareholders, customers, and society.

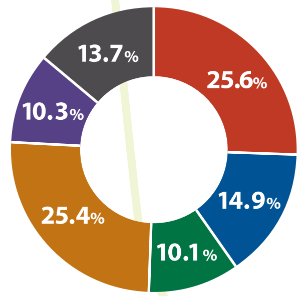
The Group will change course toward long-term business growth, strengthen earning power, and reduce the range of fluctuations in income through promotion of The TOP 2021, enhance the value of the Group, and establish a stable foundation that will support the Group's growth far into the future.

The Group aims to earn the complete trust and confidence of the market and society, always managing operations based on the principles of corporate social responsibility. The Group is also committed to the principles of Responsible Care and is vigorously carrying out an action plan to protect the environment as well as health and safety.

Showa Denko at a Glance

Net sales 2018 **¥992.1 billion**

Note: The ratios for segments have been calculated after adding the amount of adjustments to net sales.



Petrochemicals
Olefins (ethylene and propylene), organic chemicals (vinyl acetate monomer, ethyl acetate, and allyl alcohol), and polymer (polypropylene)

Chemicals
Functional chemicals (polymer emulsion and unsaturated polyester resin), industrial gases (liquefied carbon dioxide, dry ice, oxygen, nitrogen, and hydrogen), basic chemicals (liquefied ammonia, acrylonitrile, and chloroprene rubber), and electronic chemicals (high-purity gases for electronics)

Electronics
Hard disk (HD) media, compound semiconductors (LED chips), rare earth magnetic alloys, and lithium-ion battery (LIB) materials

Inorganics
Graphite electrodes and ceramics (alumina and abrasives)

Aluminum
Rolled products (high-purity foils for capacitors), specialty components (cylinders for laser beam printers [LBPs], extrusions, forged products, and heat exchangers), and beverage cans

Others
Building materials, general trading, and SiC epitaxial wafers for power devices*

** SiC epitaxial wafers for power devices was transferred from Others segment to Electronics segment from 2019.*

See pages 10-11 for business segments.

About Annual Report 2018

This report mainly covers the Showa Denko Group's financial information such as business strategies, outline of businesses, and financial results.
PDF and online versions of this report are available on the Web.
http://www.sdk.co.jp/english/ir/library/annual.html

In addition, various materials which help you understand the Group are available on our website. The latest information is also available.

IR Information **http://www.sdk.co.jp/english/ir.html**
Financial statements (annual, quarterly), corporate performance (performance forecasts and performance trends), and stock price information are available at this site. Taking advantage of the latest technology, we offer interactive charts enabling you to see charts of indicators that you choose.

ESG information **http://www.sdk.co.jp/english/csr.html**
At this site, you can see our measures and performance data for environment (E), social (S), and governance (G).

We issue integrated report *SHOWA DENKO REPORT* (digest and full report) covering the general outline of the Showa Denko Group and annual major topics. PDF and HTML versions of the above are available on the Web.

Our Strengths

Showa Denko has many products maintaining high world market shares.
Some of our high priority products in our business segments are shown here.

Chemicals

High-purity gases for electronics

The world's largest manufacturer of specialty gases such as C_4F_6, HBr, Cl_2, NH_3, etc.

High-purity gases for electronics are used as etching and cleaning gases, and materials for membrane formation, which are necessary for production of electronic devices including semiconductors, LCD panels, and solar batteries. In 2018, we expanded annual production capacity of high-purity hydrogen bromide (HBr) to 900 tons, 1.5 times as much as the previous level.

Electronics

HD media

The world's largest independent manufacturer

HD media, one of the major parts of HD drives (HDDs), are used in notebook PCs, consumer electronics, and external hard disk drives. Demand is expected to grow further for use in servers for cloud computing. In 2019, we announced the start of shipments of newly developed 3.5-inch HD media based on microwave assisted magnetic recording (MAMR) technology for making next-generation HDDs. HD media have a significant effect on HDD storage capacity. We will continue contributing to the expansion of storage capacities for HDDs using our motto "Best in Class."

Aluminum laminated film for LIB packaging

The second largest manufacturer in the world

We provide packaging materials for pouch-type lithium-ion batteries (LIBs) used in smartphones and tablet PCs. Demand for pouch-type LIBs is growing due to such advantages as high levels of heat dissipation and flexibility in molding.

Inorganics

Graphite electrodes

The world's largest manufacturer

Graphite electrodes are used in electric arc furnaces for steel production. In 2017, we acquired a German graphite electrode company. We now have graphite electrode production bases in Europe and Southeast Asia, in addition to our existing bases in Japan, the United States, and China, and became the leading supplier in the global graphite electrode industry.

Aluminum

High-purity aluminum foil for capacitors

The world's largest manufacturer

We provide high-purity aluminum foil for aluminum electrolytic capacitors, which are widely used in air conditioners, automotive parts, and solar power generation. Our proprietary manufacturing process has enabled us to realize high productivity and quality.

Aluminum cans

The second largest manufacturer in Vietnam and the fourth largest in Japan

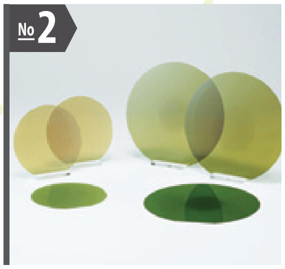
Since 1971, we have been operating our aluminum can business as a pioneer who produced the first aluminum can for beverages in Japan.

Since 2014, we have been expanding our aluminum can business in Vietnam and Thailand, focusing on the rapidly growing Southeast Asian market. In 2018, we established our second plant in central Vietnam. We also established a joint venture with Carabao Group Company Limited and completed construction of a factory in Thailand.

Our capacity to manufacture aluminum cans in Southeast Asia has been expanded to 3 billion cans a year.

Others*

SiC epitaxial wafers for power devices



The second largest independent manufacturer in the world

We have been contributing to the commercialization and market expansion of "full SiC" power modules through production of high-grade SiC epi-wafers for power transistors since 2015, in addition to those for diodes. SiC-based power devices are attracting attention due to their features that enable production of smaller, lighter, and more energy-efficient next-generation power control modules. We have been gradually expanding the capacity to produce "high-grade epi." Our "high-grade epi" production capacity reached 9,000 wafers** per month in February 2019.

** Based on a conversion into SiC epitaxial wafers for power devices that can withstand 1,200 volts.

* SiC epitaxial wafers for power devices was transferred from Others segment to Electronics segment from 2019.

Note: The worldwide or global market positions shown on this page are SDK's estimates.

Contents

Consolidated 11-Year Summary

Financial Highlights

Showa Denko K.K. and Consolidated Subsidiaries — Millions of yen

December 31	2008	2009	2010 (Note 2)	2011 (Note 2)	2012	2013
For the year						
Net sales	¥1,003,876	¥678,204	¥797,189	¥854,158	¥739,675	¥847,803
Petrochemicals	400,173	235,999	199,590	250,396	190,939	286,732
Chemicals	93,319	91,887	133,578	130,203	127,252	130,402
Electronics	188,778	127,807	147,988	165,011	163,306	136,548
Inorganics	88,797	53,711	77,958	77,564	65,573	65,919
Aluminum	232,809	168,799	130,084	124,280	92,194	90,369
Others	—	—	154,084	150,583	135,280	176,516
Adjustments	—	—	(46,093)	(43,879)	(34,870)	(38,684)
Operating income	26,792	(4,983)	38,723	47,357	28,108	25,953
Petrochemicals	(1,281)	7,992	2,278	3,484	(977)	4,398
Chemicals	5,329	446	5,618	2,035	(875)	2,559
Electronics	9,259	(9,775)	14,909	30,242	32,311	21,940
Inorganics	19,244	3,603	10,085	9,640	2,954	(838)
Aluminum	(212)	(4,217)	8,543	6,212	1,581	5,845
Others	—	—	2,041	1,860	89	(626)
Adjustments	(5,547)	(3,032)	(4,752)	(6,116)	(6,975)	(7,324)
Net income attributable to owners of the parent	2,451	(37,981)	12,706	16,980	9,368	9,065
Net cash provided by operating activities	61,099	19,846	66,293	69,437	53,310	63,565
Net cash provided by (used in) investing activities	(44,035)	(26,595)	(49,074)	(38,671)	(41,741)	(55,203)
Free cash flow	17,065	(6,749)	17,218	30,766	11,569	8,362
R&D expenditures	20,072	20,743	20,670	21,597	20,633	20,435
Capital expenditures	54,799	38,666	58,035	38,794	42,503	44,370
Depreciation and amortization	60,439	54,178	50,678	49,413	46,232	39,779
At year-end						
Total assets	962,010	958,303	924,484	941,303	933,162	985,771
Total net assets	265,459	286,722	284,965	295,745	314,966	345,811
Interest-bearing debt	392,914	373,911	351,034	347,308	342,262	353,686
Debt/equity ratio (gross, times)	1.48	1.30	1.23	1.17	1.09	1.02
			Yen			
Per share (Note 4)						
Net income—primary (Note 5)	¥ 1.96	¥(29.44)	¥ 8.49	¥ 11.35	¥ 6.26	¥ 6.06
Net income—fully diluted (Note 5)	—	—	—	11.20	—	—
Net assets	192.85	163.11	161.47	168.33	182.24	201.27
Cash dividends (applicable to the period) (Note 6)	5.00	3.00	3.00	3.00	3.00	3.00
Number of employees at year-end	11,756	11,564	11,597	11,542	9,890	10,234

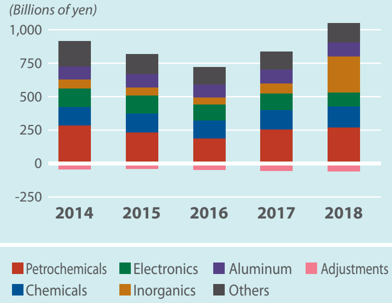
Notes: 1. Yen amounts have been translated into U.S. dollars, for convenience only, at the rate of ¥111.00 to US$1.00, the approximate rate of exchange at December 31, 2018.

2. Changing the segmentation

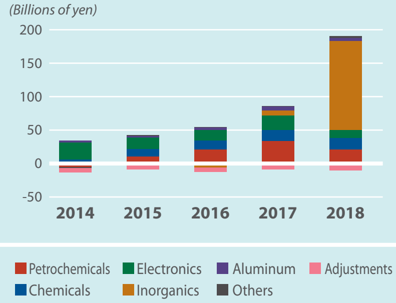
Effective from the year ended December 31, 2011, the Companies have applied "Accounting Standard for Disclosures about Segments of an Enterprise and Related Information" (Accounting Standards Board of Japan (ASBJ) Statement No.17, issued on June 30, 2010) and "Guidance on the Accounting Standard for Disclosures about Segments of an Enterprise and Related Information" (ASBJ Guidance No. 20, issued on March 21, 2008). The segment information for the year ended December 31, 2010, which is restated under the accounting standard, is disclosed for comparison purposes.

LIB materials was transferred from "Others" to "Electronics" from the year ended December 31, 2017. The segment information for the year ended December 2016 in the above table are based on the new segmentation.

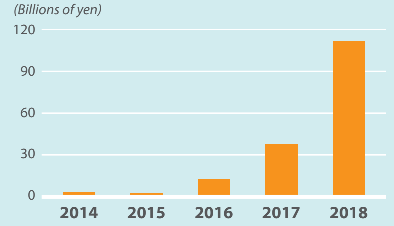
Net Sales by Segment



Operating Income by Segment



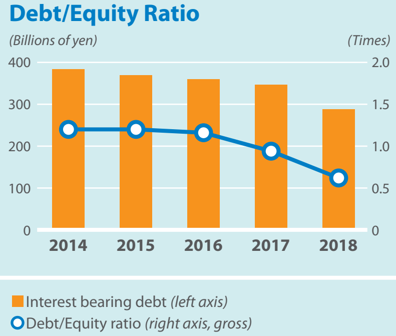
Net Income Attributable to Owners of the Parent



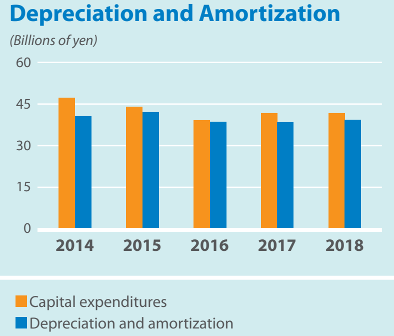
Showa Denko K.K. and Consolidated Subsidiaries		Millions of yen				Thousands of U.S. dollars (Note 1)
December 31	2014	2015	2016 (Note 2)	2017 (Note 3)	**2018**	
For the year						
Net sales	¥ 872,785	¥775,732	¥671,159	¥ 780,387	**¥ 992,136**	**$8,938,162**
Petrochemicals	281,400	231,288	185,783	251,128	**268,879**	**2,422,335**
Chemicals	138,695	142,292	134,529	148,758	**156,541**	**1,410,275**
Electronics	138,537	131,492	120,461	123,064	**105,823**	**953,359**
Inorganics	67,557	63,476	50,870	73,442	**266,149**	**2,397,739**
Aluminum	97,946	100,756	98,575	105,439	**108,254**	**975,260**
Others	191,610	147,233	128,740	133,624	**143,413**	**1,292,008**
Adjustments	(42,959)	(40,805)	(47,800)	(55,067)	**(56,922)**	**(512,812)**
Operating income	20,551	33,508	42,053	77,708	**180,003**	**1,621,649**
Petrochemicals	(4,930)	10,543	20,690	33,357	**20,333**	**183,178**
Chemicals	5,460	10,707	13,824	16,474	**17,393**	**156,696**
Electronics	25,770	17,472	15,015	21,925	**12,397**	**111,686**
Inorganics	(300)	(1,249)	(5,758)	6,979	**132,445**	**1,193,195**
Aluminum	2,999	2,563	4,416	6,697	**4,942**	**44,520**
Others	(1,041)	1,329	623	633	**2,893**	**26,066**
Adjustments	(7,406)	(7,857)	(6,758)	(8,357)	**(10,400)**	**(93,692)**
Net income attributable to owners of the parent	2,929	921	12,305	37,404	**111,503**	**1,004,535**
Net cash provided by operating activities	66,996	61,170	68,949	67,235	**149,785**	**1,349,415**
Net cash provided by (used in) investing activities	(46,876)	(42,497)	(53,754)	(29,914)	**(49,338)**	**(444,487)**
Free cash flow	20,120	18,674	15,195	37,369	**100,447**	**904,928**
R&D expenditures	20,362	20,289	17,313	18,539	**19,735**	**177,789**
Capital expenditures	47,318	44,059	39,276	41,787	**41,727**	**375,921**
Depreciation and amortization	40,673	42,137	38,761	38,454	**39,459**	**355,489**
At year-end						
Total assets	1,009,843	940,494	932,698	1,026,999	**1,075,746**	**9,691,405**
Total net assets	319,087	308,142	311,231	368,994	**465,340**	**4,192,251**
Interest-bearing debt	383,124	368,835	359,929	346,726	**287,968**	**2,594,304**
Debt/equity ratio (gross, times)	1.20	1.20	1.16	0.94	**0.62**	
			Yen			U.S. dollars (Note 1)
Per share (Note 4)						
Net income—primary (Note 5)	¥ 1.99	¥ 6.45	¥ 86.27	¥ 234.84	**¥ 758.15**	**$ 6.83**
Net income—fully diluted (Note 5)	—	—	—	—	**—**	
Net assets	209.76	2,076.05	2,080.85	2,445.01	**3,057.16**	**27.54**
Cash dividends (applicable to the period) (Note 6)	3.00	3.00	—	80.00	**120.00**	**1.08**
Number of employees at year-end	10,577	10,561	10,146	10,864	**10,476**	

3. The tentative accounting policy applied to calculation of 2017 financial results due to consolidation of former SGL GE Holding GmbH was finalized when the Company settled accounts for the third quarter of 2018. Accordingly, the amounts of depreciation and amortization and some other costs for the year ending December 2017 were changed. The amount in the above table includes those retroactively changed numbers for the year ending December 2017.
4. SDK consolidated every ten shares of its common stock into one share on July 1, 2016. "Per share" indicators for 2015 and 2016 (except for cash dividends) are calculated on the basis of the number of outstanding shares after this consolidation.
5. Net income per share has been computed based on the average number of shares of common stock outstanding during the respective fiscal year. Fully diluted net income per share additionally assumes the conversion of the convertible bonds. Diluted net income per share for 2015 and 2014 were not disclosed because there were no dilutive shares. Diluted net income per share for 2013 was not disclosed because the Company had no securities with dilutive effects.
6. SDK resolved payment of dividends of Yen 30.00 per share based on the record date of May 11, 2017 at the extraordinary general meeting of shareholders held in June 2017. Cash dividends applicable to 2017 includes this amount.

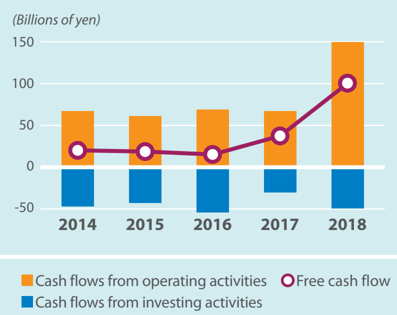
Interest-Bearing Debt
Debt/Equity Ratio



Capital Expenditures
Depreciation and Amortization



Cash Flows



Message from the Management

Hideo Ichikawa
Representative Director,
Chairman of the Board

Kohei Morikawa
Representative Director,
President and CEO

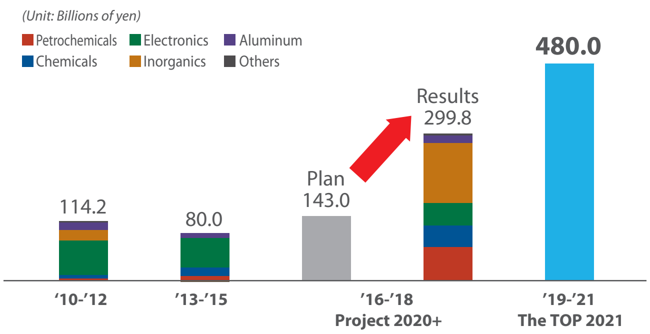
"Project 2020+," our medium-term business plan, reached its final year in 2018. During the plan's three years (2016 to 2018), we steadily strengthened our earning power by improving the profitability of our "Base-shaping" business, expanding our "Advantage-establishing" and "Growth-accelerating" businesses, and pushing through structural reform in our "Rebuilding" businesses, in order to create the sound present capable of generating sufficient profits and shareholder returns for our investors and other stakeholders.

In 2018, the Group's operating income and net income both set record highs for the second fiscal year in a row. This performance was attributable to integration with SGL GE Holding GmbH in the graphite electrodes business in Inorganics segment, a rise in market prices of graphite electrodes caused by tightening supply and demand situation, and an increase in earning power in our Petrochemicals and Chemicals segments. Cumulative operating income for the three years covered by the Project 2020+ was ¥299.8 billion. As a result, we saw a considerable increase in income compared with the previous three years, and we substantially exceeded the target we set in the Project 2020+.

Our D/E ratio, an indicator of financial strength, improved from 1.2 times at the end of 2015 to 0.6 times at the end of 2018. We increased our dividend, an indicator of shareholder returns, from ¥30 per share in 2015 to ¥120 per share in 2018. We also repurchased the Company's own shares equivalent of ¥10 billion in December 2018.

In addition, high-purity gases for electronics and electronic devices, SiC epitaxial wafers for power devices, and titanium oxides for multilayer ceramic capacitors (MLCCs), grew sharply, contributing to improved business performance. We will tie this momentum into The TOP 2021, our next three-year medium-term business plan (2019–2021) to forge a promising future.

Three-year Total Operating Income



2018 Performance

The Showa Denko Group recorded consolidated net sales of ¥992,136 million in 2018, up ¥211,749 million or 27.1% over the previous year. Although sales declined in the Electronics segment due to a decrease in shipments of HD media for PCs, sales rose substantially in the Inorganics segment as a result of integration in our graphite electrodes business conducted in the second half of 2017 and a rise in international market prices of graphite electrodes. In the Petrochemicals segment, although we cut back on production due to large periodic shutdown maintenance of ethylene production equipment, sales went up as a result of a rise in market prices of products due to an increase in the price of naphtha as raw material.

The Group's operating income increased significantly, by ¥102,295 million (up 131.6% year on year) to ¥180,003 million. While income declined in the Electronics segment in addition to the Petrochemicals segment, which was affected by large periodic shutdown maintenance, income rose significantly in the Inorganics segment as a result of the integration in our graphite electrodes business and an increase in market conditions.

The Group recorded net income attributable to owners of the parent of ¥111,503 million in 2018, up ¥74,099 million or 198.1% from the previous year despite an increase in extraordinary loss due mainly to the posting of impairment loss in the domestic aluminum cans business and other businesses compared with the previous year and an increase in corporate taxes.

Medium-Term Business Plan The TOP 2021

In January 2019, we started The TOP 2021, our new medium-term business plan* for 2019–2021.

*For details, see: http://www.sdk.co.jp/english/ir/library/irpresentation.html#midterm

Under The TOP 2021, we will establish a platform for growth, while showing a promising future for the Showa Denko Group, and will pursue progress and development toward becoming a *Koseiha* Company (an individualized company), which is our vision toward the year 2025.

The Showa Denko Group's mission is that "We will satisfy all stakeholders." We will therefore focus on management that continually enhances value for all stakeholders—that is, shareholders, customers, society, employees, and business connections.

Toward that end, the Showa Denko Group will aim to be a *Koseiha* Company. A *Koseiha* Company is an aggregate of *Koseiha* Businesses, or businesses that we have established in the industry's No. 1 position by earning operating income of around several billion yen, while posting an operating margin in the double digits, in markets with a scale of tens of billions of yen to hundreds of billions of yen, the appropriate market scale for our businesses. Our medium- to long-term management objective is to make at least half of our existing businesses into *Koseiha* Businesses in 2025 by laying a path for other businesses to reach *Koseiha* Business status following our HD media, high-purity gases for electronics, and graphite electrodes businesses.

Under the new medium-term business plan, the Group intends to achieve, cumulatively for the three years covered by the plan, net sales of ¥3.4 trillion, operating income of ¥480 billion, and net income of ¥330 billion, greatly expanding each compared with the previous medium-term business plan. Paying close attention to asset efficiency in terms of ROA and ROE, we will make effective and aggressive investments to achieve both high growth and high returns.

Contribution to SDGs

As a business operator, we have set out as our Group's goal to develop, manufacture, and sell products and services that contribute to the SDGs. As a business group, we create stable returns over the long term by promoting business that contributes to the creation of a sustainable society, and we will continue to evolve.

Conclusion

The Showa Denko Group is committed to satisfying all stakeholders, including shareholders, our customers' industries, suppliers, and employees. Toward that end, we will conduct business operations with a medium- to long-term perspective and create excellent *Koseiha* (individualized) products by deepening and fusing the Group's organic chemistry, aluminum, and inorganic chemistry technologies. In this way, we aim to be a social contribution company that helps to create a society where affluence and sustainability are harmonized.

Going forward, the Showa Denko Group will change significantly in pursuit of growth. With the keyword "Act!," our new corporate message symbolizing the path forward, our management team and employees will make concerted efforts to carry out our medium-term business plan. As we push ahead, we ask for your continuing support of the Showa Denko Group.

Finally, we sincerely appreciate and look forward to the continued understanding, support, and encouragement of all our shareholders.

March 28, 2019

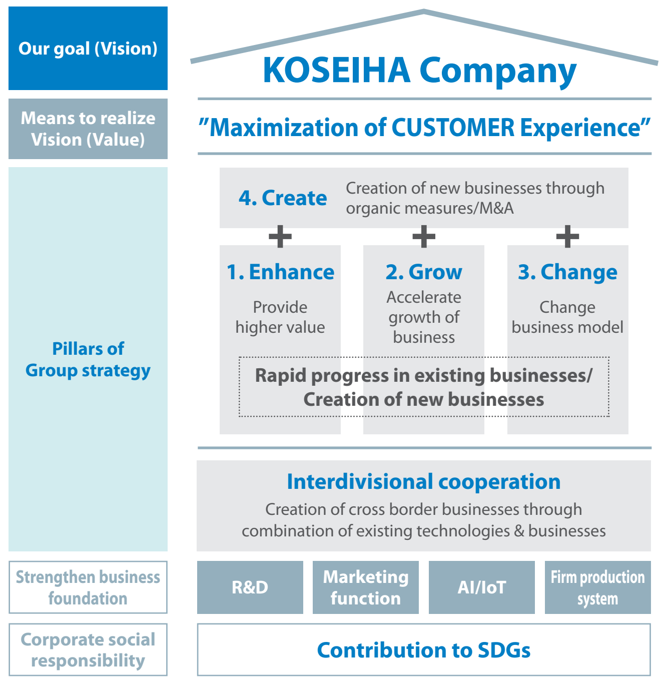
The New Medium-Term Business Plan: The TOP 2021

The TOP 2021

The TOP 2021 is a three-year business plan that aims to establish a base for growth by leveraging the earning power strengthened during the three years of the previous medium-term plan (2016–2018) while laying emphasis on showing a "promising future" to stakeholders. We have now launched The TOP 2021 for changing the Showa Denko Group's direction toward long-term growth, with the aim of achieving our vision of becoming a *Koseiha* Company by 2025.

Group Management Policy

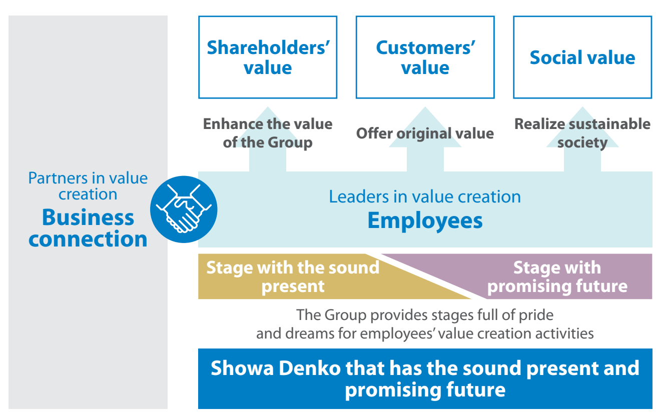
The overall outlook of the new medium-term business plan summarizes the strategy that the Group will use to achieve our mission, vision, and value. First, we defined a new business portfolio in which we categorized our existing businesses into three business categories, namely "Enhance," "Grow," and "Change." And, through the notions of "Create" and "Interdivisional cooperation," we will produce discontinuous growth and rapid progress in existing business, such as business segment expansion, or producing new businesses that are different from existing ones. We will strengthen R&D, marketing, AI/IoT initiatives, and production systems, which are the foundations supporting these strategies. And at the base of all our initiatives is the notion to contribute to Sustainable Development Goals (SDGs), which is our corporate social responsibility.



Business Philosophy: Mission

The Showa Denko Group's mission is that "We will satisfy all stakeholders."

We will therefore focus on management that continually enhances value for all of our stakeholders: shareholders, customers, society, employees, and business connections. The main actors in the creation of value are our employees and business connections, who are also our stakeholders. We are aiming to be the kind of corporate group where employees and business connections — who are also our partners—continually improve shareholder, customer, and social value.



Vision: *Koseiha* Company

To be a *Koseiha* Company, the vision that the Group is pursuing, means being an aggregate of *Koseiha* Businesses that have established the No. 1 position in markets with a scale of tens of billions of yen to hundreds of billions of yen, which is the appropriate market scale for the Showa Denko Group. A necessary condition for that goal is for each business to set an optimal or ideal business segment.

Under the previous Project 2020+ business plan, each business worked at establishing an optimal segment. Under the new medium-term business plan, we will work on strengthening and expanding business segments by reinforcing them with new products and services around the established segments, while segmenting some areas regionally. Our medium- to long-term management objective is to make at least half of our existing businesses into *Koseiha* Businesses by 2025 by laying down a path for other businesses to reach that status following our HD media, high-purity gases for electronics, and graphite electrodes businesses.

By 2025, make half or more "KOSEIHA Businesses"

Our global No.1 businesses
Market size (SDK's share)

HD media
¥400 billion (25%)

High-purity gases for electronics
¥150 billion (25%)

Graphite electrodes (UHP)
¥300 billion (Over 30%)~

Operating margin
10% or more

Operating income
Billions of yen or more

Stable profitability tolerant to environmental change

Value: Maximization of Customer Experience

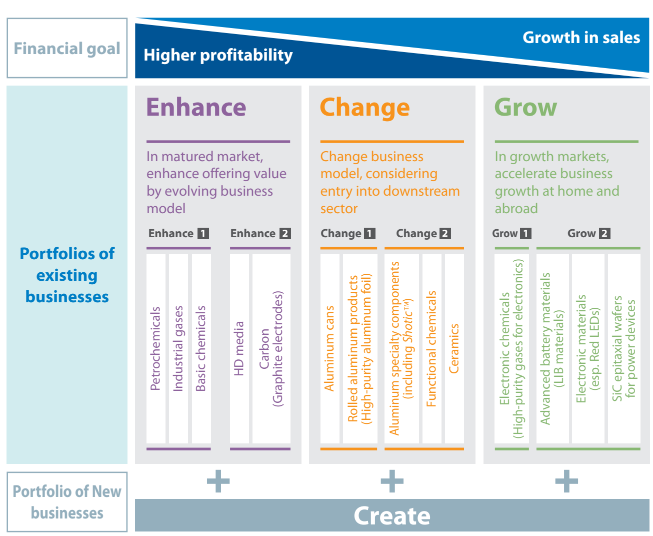
In the course of achieving our vision of becoming a *Koseiha* (individualized) Company, the important value that will lead to strengthening and expansion of our business segments is "to maximize the customer experience." It is becoming more and more difficult to differentiate ourselves by quality and price alone, so we believe that business model innovation from a "goods-oriented business model," to "experience-oriented business model" will be essential. Our Group will strive to maximize the customer experience, in this way satisfying customers, by providing excellent solutions that integrate products and services. We will run our business under the Group-wide key phrase "Maximization of customer experience" providing not only quality products but services that are unique to Showa Denko Group.

Businesses Portfolio (Enhance, Grow, Change)

Enhance These businesses are positioned as ones that should continually improve profitability. We will enhance the value they offer customers by developing business models in mature markets. We aim to make our petrochemicals, industrial gases, and basic chemicals businesses No. 1 in specific regions/fields. At the same time, we intend to make our HD media and graphite electrode businesses No. 1 globally by taking advantage of our superiority in technology and quality, while deepening customer relations at home and abroad.

Grow These businesses are positioned as ones that should simultaneously realize a high growth rate and high profitability. We will accelerate their growth at home and overseas in growth markets. We will aim to make our electronic chemicals business No. 1 globally in terms of market share, growth rate, and profitability. We will also aim for each of our advanced battery materials, electronics materials, and SiC epitaxial wafers for power devices businesses to establish a leading presence in their respective target markets (i.e., establish bases for rapid growth and high profitability).

Business Portfolio



The New Medium-Term Business Plan: The TOP 2021 *(cont.)*

Change These businesses are positioned as ones that should increase sales while maintaining profitability. We will change their business models, while considering downstream expansion. We will expand overseas business in our aluminum can and aluminum rolled products businesses. We will also shift each of our aluminum specialty components, functional chemicals, and ceramics businesses to become solution-oriented businesses and make them high-value added businesses.

Create There are two ways to create growth. One is to enable business re-grow by creating discontinuous growth in existing businesses. The other is to create new businesses in fields where there is high compatibility with Showa Denko, allowing us to leverage our technical strengths. We will strive to create a base for growth by making, more than ever, proactive R&D investments into promising technology "seeds" and through M&As, for which we have set aside ¥150 billion for the next three years.

Interdivisional Cooperation

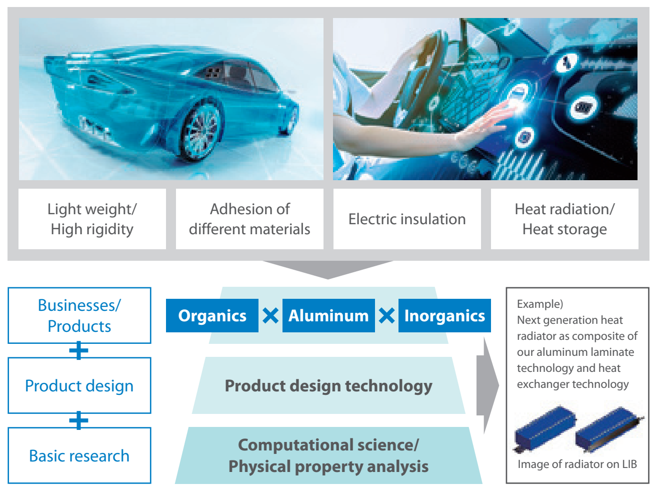
We will propose packages that combine products, technology, and services optimized for customers' applications by making use of our broad range of products and technologies. In recent years, the trend in advanced assembly industries, such as automobiles and electronics, has been to create optimized solutions together with customers. In line with this trend, we will bolster our activities to propose the optimal solutions that customers want by combining our Group's diverse materials technologies—ranging from aluminum to organic and inorganic materials—with our value chain going from raw materials manufacturing to molding, as well as the simulations and analytical technologies that we have cultivated up to now.

We will first of all focus on the automotive field, where platform changes are anticipated due to the shift to electric vehicles. With this move, we will start a project to create new composite materials for cars using aluminum.

Automotive Multi-material Project

Due to progress in electric-power operation, electrification and weight reduction of cars, car manufacturers require materials with higher performance.

Automotive Multi-material Project will develop new multi-material products that take advantages of our diverse materials and technologies centering on aluminum, through back-casting of changes in market and customers' needs.



Financial Strategy: Management Targets & Investment Policy (over three years)

Financial Targets

Under the new medium-term business plan, the Group will aim to achieve net sales of ¥3.4 trillion over three years and annual net sales of ¥1.1 trillion. This is a challenge for growth, representing a 40% increase compared with the previous medium-term business plan: Project 2020+. We will also substantially increase operating income, by 1.6 times of the previous level, and earn net income of ¥330 billion over the three years, namely ¥110 billion per year. In pursuing this growth, we will pay close attention to asset efficiency, especially ROA and ROE, making efficient, aggressive investments to achieve both high growth and high returns.

	Project 2020+ (2016 - 2018)		The TOP 2021 (2019 - 2021)
Net sales	¥2,443.7 billion	x1.4	**¥3,400.0 billion**
Operating income (Operating margin)	¥299.8 billion (12.3%)	x1.6	**¥480.0 billion (14.1%)**
Net income	¥161.2 billion	x2.0	**¥330.0 billion**
ROA (3-year simple average, O.I. base)	9.8%	+2.8pt	**12.6%**
ROE (3-year simple average)	14.5%	+5.0pt	**19.5%**

Capital investment and planned M&As

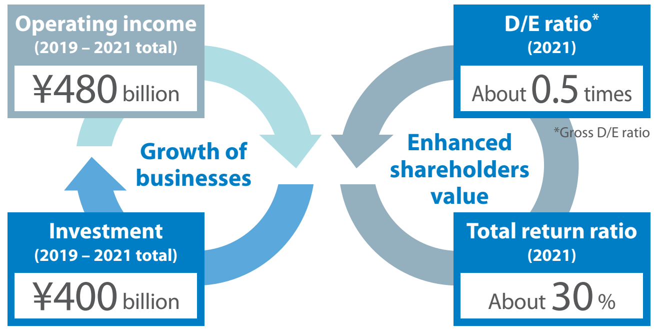
We are considering investing ¥150 billion over three years in M&As. While the timing and target domains remain yet to be undecided, we will make aggressive use of M&As not only to acquire new businesses but also to make existing businesses into *Koseiha* Businesses.

Among those improvements, we consider returns to shareholders as a highly important obligation, and under our new medium-term business plan we are aiming for a dividend payout ratio of 30%. We plan to invest ¥400 billion in total over the three years.

First, we anticipate making growth investments of ¥130 billion, or double the previous medium-term business plan. We will invest aggressively to increase production capacity, focusing on high-purity gases for electronics, SiC epi-wafers for power devices, titanium oxide for multilayer ceramic capacitors (MLCCs), and advanced battery materials—markets that are expected to grow.

We anticipate making investments in facility renovations of ¥120 billion to maintain and strengthen the competitiveness of our production operations.

Set targets for D/E ratio, total return ratio and total investment, and utilize earned cash for enhancing corporate value



Increase investment in facility improvement, organic growth and M&As.

	Project 2020+ (2016 - 2018)		The TOP 2021 (2019 - 2021)	Aims of investment
Investment in facility improvement	¥61 billion	→	¥120 billion	• To strengthen competitiveness • Renewal • To strengthen BCP
Investment in organic growth	¥64 billion	→	¥130 billion	• To increase production capacity • To improve productivity
Investment in M&As	¥25 billion	→	¥150 billion	• To promote M&As, business tie-up and equity investment

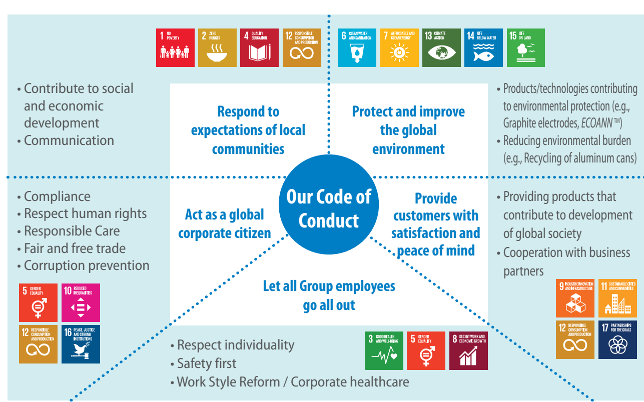
Shareholder return policy

We consider returns to shareholders as a highly important obligation, and under our new medium-term business plan we are aiming to achieve a total return ratio of 30% by 2021.

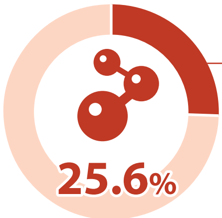
Contribution to SDGs

As a manufacturing company, we have set out as a Group goal the development, manufacture, and sale of products and services that contribute to the SDGs. Here, we introduce some examples of our businesses' contributions to society and business administration based on our view of society's future. Chemical recycling of plastics, or extracting hydrogen and CO_2 from used plastics then making use of them, and graphite electrodes, essential for recycling of steel scrap, contribute to a recycling society. In addition, we support energy efficiency in power devices that improve the performance of power conversion by providing high-quality SiC epi-wafers. Our aluminum products and technologies, the key material for reducing the weight of cars, contribute to energy savings and to reducing CO_2 emissions.

Connect SDGs and Our Code of Conduct, and promote integrated Group management



Business Segments

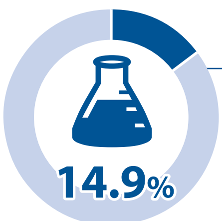


Petrochemicals

Consolidated Business Results *(Millions of yen)*	2017	2018	Increase/ decrease	Rate of change
Sales	251,128	268,879	17,751	7.1%
Operating Income	33,357	20,333	-13,024	-39.0%

The Oita Complex is the main manufacturing base of the Petrochemicals Division and is equipped with a naphtha cracker. The Complex produces olefins, including ethylene and propylene. As its feature, the Complex has a well-balanced demand structure. The basic raw materials manufactured within the Complex are supplied not only to Showa Denko's plants producing organic chemicals, including vinyl acetate, ethyl acetate and other acetylic derivatives, but also to other companies' plants in and around the Oita Complex producing plastics, synthetic rubber, and styrene monomer, including a plant producing polypropylene that is operated by SunAllomer Ltd., a subsidiary of Showa Denko.

Showa Denko is expanding business to produce acetylic derivatives by taking advantage of the Company's advanced catalyst technology.



Chemicals

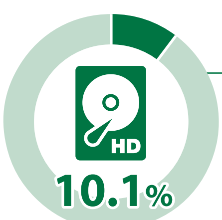
Consolidated Business Results *(Millions of yen)*	2017	2018	Increase/ decrease	Rate of change
Sales	148,758	156,541	7,782	5.2%
Operating Income	16,474	17,393	919	5.6%

The Electronic Chemicals Division supplies semiconductor manufacturers in Japan and overseas with more than 20 kinds of high-purity gases, including fluorinated etching gases, ammonia and chlorine gases, chemicals, and equipment for use in the LCP, LED, and solar cell manufacturing processes.

The Industrial Gases Division supplies oxygen, nitrogen, and argon separated from air as well as compressed hydrogen, carbonic acid, dry ice, and other industrial gases to a range of industries. The Division especially contributes to a stable supply of food and food safety by providing of carbonic acid gas, mainly used for carbonated drinks and dry ice to keep food cool.

The Basic Chemicals Division supplies ammonia, acrylonitrile, caustic soda, hydrochloric acid, and other industrial chemicals. The Division also supplies amino acids, as well as elastomer products, such as chloroprene rubber. *ECOANN*™ ammonia, which utilizes used plastics as one of raw materials, is a product that contributes to the creation of a recycling-oriented society and is mainly used as a denitration agent at thermal power plants.

The Functional Chemicals Division consists of the Functional Polymers Department and the Specialty Chemicals Department. The Functional Polymers Department provides various types of plastics, including unsaturated polyester resin, which is light, strong and corrosion-resisting, and molding compounds made by using the plastics. The Specialty Chemicals Department offers innovative and unique products, such as raw materials for cosmetics, resins for use as electronic materials, and columns for high performance liquid chromatography (HPLC).



Electronics

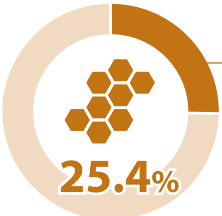
Consolidated Business Results *(Millions of yen)*	2017	2018	Increase/ decrease	Rate of change
Sales	123,064	105,823	-17,241	-14.0%
Operating Income	21,925	12,397	-9,528	-43.5%

The Showa Denko Group is the largest independent HD media supplier in the world. The Device Solutions Division (former HD Division) conducts HD media business from seven bases around the world, including three in Japan. This division provides world-class high-quality products for use in PCs and other consumer electronic products as well as for use in data centers and other enterprise fields, where demand is expected to grow due to the spread of cloud computing.

The Electronics Materials Division supplies compound semiconductor materials and rare earth magnetic alloys. For compound semiconductor materials, the Division has a wide lineup of high-output LEDs with industrial applications, including use in displays and sensors.

The Advanced Battery Materials Division is promoting production and sales of various materials for lithium-ion batteries, including *SCMG*™ high-input/output long-life anode material, *VGCF*™ unique anode and cathode additive featuring high stability and quality, and *SPALF*™ aluminum laminated film. The demand for lithium-ion batteries has been growing in recent years.

*HD Division was reorganized into Device Solutions Division at the beginning of 2019, when epitaxial wafers business was transferred from the Others segment into this new division.



Inorganics

Consolidated Business Results *(Millions of yen)*	2017	2018	Increase/ decrease	Rate of change
Sales	73,442	266,149	192,707	262.4%
Operating Income	6,979	132,445	125,466	1,797.8%

The Carbon Division supplies graphite electrodes for electric steelmaking furnaces. These electrodes are indispensable for the recycling of iron and steel. Showa Denko's graphite electrodes are highly acclaimed by customers around the world. The Division integrated the graphite electrode business of German company SGL GE GmbH in 2017 to become the world's No.1 manufacturer in this field. The Division will enhance the development and marketing of volume zone products for fast growing markets in emerging countries, while providing advanced markets with high-end products.

Capitalizing on long-accumulated high-temperature fusion technology, high-temperature sintering technology, and the pulverization/classification technology, the Ceramics Division manufactures and sells polishing materials, abrasives, and refractories where fused alumina, silicon carbide, and boron nitride are used. As for ultrafine titanium oxide, used as the main material to manufacture multilayer ceramic capacitors (MLCCs) that are mounted on a range of electronic devices, the Division is expanding sales for use in high-end products.

Aluminum

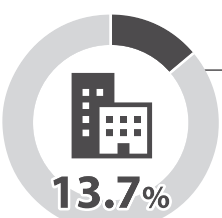
Consolidated Business Results *(Millions of yen)*	2017	2018	Increase/ decrease	Rate of change
Sales	105,439	108,254	2,815	2.7%
Operating Income	6,697	4,942	-1,755	-26.2%

The Aluminum Rolled Products Division provides high-purity aluminum foils, which are carefully purified and manufactured for use in electrolytic capacitors. These capacitors are widely used in a range of products, including home electric appliances and automotive equipment.

The Aluminum Specialty Components Division provides aluminum materials and processed products. The Division supplies the following products not only in Japan but also in Europe, the United States, and Southeast Asia: aluminum cylinders (core component of laser beam printers), large/complexly shaped extruded products, continuously cast rods of aluminum alloys (*SHOTIC*™) made using Showa Denko's proprietary technologies, and forged products for automobile parts including compressors for car air conditioners.

The Division also supplies a range of heat exchangers for home electric appliances and industrial equipment worldwide and is developing and manufacturing power semiconductor cooling devices used in hybrid cars, electric vehicles, and solar power generation equipment.

The Showa Denko Group became the first company to manufacture aluminum beverage cans in Japan in 1971. Since then, the Aluminum Can Division has been supplying high-quality aluminum cans for beverages through integrated production, including pressing can bodies and can ends and printing labels. Though the domestic market for aluminum cans has matured, we will expand our aluminum can business in the ASEAN market including Vietnam, a market that is expected to grow, by establishing new business bases.



Others

Consolidated Business Results *(Millions of yen)*	2017	2018	Increase/ decrease	Rate of change
Sales	133,624	143,413	9,789	7.3%
Operating Income	633	2,893	2,260	357.0%

Included in this section are themes for future businesses as well as the manufacture and sale of various chemical products, light metals, and building and civil engineering materials.

SiC epitaxial wafers are used as materials for next generation power semiconductors, which are expected to contribute to energy conservation. The wafers are being increasingly used in power devices for EV chargers, photovoltaic generation, and servers.

*SiC epitaxial wafers business was reorganized into Device Solutions Division in the Electronics segment at the beginning of 2019.

For details of business results, please see the "Management's Discussion and Analysis" (p19).

Management Team as of March 28, 2019

Kozo Isshiki, Masaharu Oshima, Keiichi Kamiguchi, Jun Tanaka, Hideo Ichikawa, Kohei Morikawa, Hidehito Takahashi, Motohiro Takeuchi, Kiyoshi Nishioka

Directors

HIDEO ICHIKAWA *Representative Director, Chairman of the Board*

April 1975	Joined the Company
January 2006	Corporate Officer; General Manager, Corporate Strategy Office
March 2008	Director; Corporate Officer; General Manager, Corporate Strategy Office
September 2008	Director; Corporate Officer; Executive Officer, HD Sector
January 2010	Director; Managing Corporate Officer; Executive Officer, HD Sector
January 2011	President and Chief Executive Officer (CEO)
January 2017	Chairman of the Board (incumbent)

KOHEI MORIKAWA *Representative Director, President*

April 1982	Joined the Company
January 2013	Corporate Officer; General Manager, Electronic Chemicals Division
January 2016	Managing Corporate Officer; Chief Technology Officer (CTO)
March 2016	Director; Managing Corporate Officer; Chief Technology Officer (CTO)
January 2017	President and Chief Executive Officer (CEO) (incumbent)

JUN TANAKA

April 1982	Joined the Company
January 2013	Corporate Officer; General Manager, Advanced Battery Materials Department
January 2017	Managing Corporate Officer; Chief Technology Officer (CTO)
March 2017	Director; Managing Corporate Officer: Chief Technology Officer (CTO)
January 2019	Director; Managing Corporate Officer, in charge of Advanced Battery Materials Division, Institute for Integrated Product Development, Advanced Technology Laboratory, Corporate R&D and Intellectual Property departments; Chief Technology Officer (CTO) (incumbent)

HIDEHITO TAKAHASHI

April 1986	Joined The Mitsubishi Bank, Ltd. (currently MUFG Bank, Ltd.)
October 2004	Asia Pacific President, GE Sensing & Inspection Technologies, GE Japan Holding Corporation
October 2008	President & CEO, Silicones Business, Momentive Performance Materials Japan Inc.
January 2013	President and CEO, GKN Driveline Japan plc
October 2015	Joined the Company, Senior Corporate Fellow, Assistant to President
January 2016	Corporate Officer; General Manager, Corporate Strategy Department
January 2017	Managing Corporate Officer
March 2017	Director; Managing Corporate Officer
July 2017	Director; Managing Corporate Officer, General Manager, Carbon Division
January 2019	Director; Managing Corporate Officer, in charge of Ceramics Division, Yokohama and Shiojiri plants, and Corporate Strategy Department; General Manager, Carbon Division (incumbent)

KEIICHI KAMIGUCHI

April 1983	Joined the Company
January 2011	Corporate Officer; General Manager, Corporate Strategy Office
January 2015	Corporate Officer
January 2017	Corporate Officer; Chief Risk Management Officer (CRO)
March 2017	Director; Corporate Officer; Chief Risk Management Officer (CRO)
January 2019	Director; Corporate Officer, in charge of Internal Audit, Legal, CSR & General Affairs, Human Resources, and Purchasing & SCM departments; Chief Risk Management Officer (CRO) (incumbent)

MOTOHIRO TAKEUCHI

April 1983	Joined the Company
January 2015	Corporate Officer; General Manager, Ceramics Division
January 2017	Corporate Officer; General Manager, Corporate Strategy Department
January 2019	Corporate Officer, in charge of Finance & Accounting and Information Systems departments; Chief Financial Officer (CFO)
March 2019	Director; Corporate Officer, in charge of Information Systems Department; General Manager, Finance & Accounting Department; Chief Financial Officer (CFO) (incumbent)

MASAHARU OSHIMA *Outside Director*

April 1974	Joined Nippon Telegraph and Telephone Public Corporation (currently Nippon Telegraph and Telephone Corporation)
November 1995	Professor, Applied Chemistry Department, Graduate School of Engineering, The University of Tokyo
April 2006	Director, Synchrotron Radiation Research Organization, The University of Tokyo
October 2009	Chairman, The Japanese Society for Synchrotron Radiation Research
April 2013	Project Professor, Synchrotron Radiation Research Organization, The University of Tokyo
May 2013	Chairman, The Surface Science Society of Japan
June 2013	Emeritus Professor, The University of Tokyo (incumbent)
April 2014	Project Researcher, Synchrotron Radiation Research Organization, The University of Tokyo
March 2015	Director of the Company (incumbent)
April 2015	Special Professor, Tokyo City University (incumbent)
July 2016	Project Researcher, School of Engineering, The University of Tokyo (incumbent)
December 2016	Project Researcher, Institute for Solid State Physics, The University of Tokyo (incumbent)

KIYOSHI NISHIOKA *Outside Director*

April 1977	Joined Nippon Steel Corporation
June 2005	Director; General Manager, Technology Development Planning Department, Technology Development Headquarters, Nippon Steel Corporation
June 2009	Counselor, Nippon Steel Corporation
November 2012	Special Professor, Research Center for Advanced Science and Technology, The University of Tokyo
April 2017	Adviser, Research Center for Advanced Science and Technology, The University of Tokyo (incumbent)
April 2017	Visiting Professor, Ehime University (incumbent)
March 2018	Director of the Company (incumbent)

KOZO ISSHIKI *Outside Director*

July 1969	Joined Japan Development Bank (currently Development Bank of Japan Inc.)
June 2001	Executive Director, Development Bank of Japan Inc.
May 2005	Chairman of the Board, Technology Alliance Investment, Ltd.
July 2007	Director, Fukoku Mutual Life Insurance Company (Outside Director) (incumbent)
June 2009	Auditor, Isuzu Motors Limited (Outside Auditor)
June 2015	Director, Medical System Network Co., Ltd. (Outside Director) (incumbent)
March 2019	Director of the Company (incumbent)

Audit & Supervisory Board Members

TETSU MORIKI

April 1977	Joined the Company
January 2010	Corporate Fellow; General Manager, Legal Office
January 2016	Senior Corporate Fellow; General Manager, Legal & Intellectual Property Department
January 2018	Counselor, Assistant to President
March 2018	Audit & Supervisory Board Member (incumbent)

TOSHIHARU KATO

April 1981	Joined Showa Aluminum Corporation (currently Showa Denko K.K.)
January 2016	Corporate Officer; General Manager, Finance & Accounting Department
January 2017	Corporate Officer; General Manager, Finance & Accounting Department; Chief Financial Officer (CFO)
March 2017	Director; Corporate Officer, General Manager, Finance & Accounting Department; Chief Financial Officer (CFO)
January 2018	Director; Corporate Officer, in charge of Finance & Accounting and Information Systems departments; Chief Financial Officer (CFO)
January 2019	Director, Assistant to President
March 2019	Audit & Supervisory Board Member (incumbent)

HIROYUKI TEZUKA *Outside Member*

April 1986	Registered with Dai-ichi Tokyo Bar Association Joined Nishimura & Sanada Law Offices (currently Nishimura & Asahi)
September 1992	Clearly, Gottlieb, Steen & Hamilton, New York
January 1993	Admitted to the bar of the State of New York
June 1993	Returned to Nishimura & Sanada Law Offices (currently Nishimura & Asahi) as Partner (incumbent)
March 2008	Audit & Supervisory Board Member, of the Company (incumbent)

KIYOMI SAITO *Outside Member*

April 1973	Joined Nikkei Inc.
September 1975	Joined Sony Corporation
August 1984	Joined Morgan Stanley Investment Bank
January 1990	Executive Director, Morgan Stanley Investment Bank
April 2000	President, JBond Co., Ltd. (currently JBond Totan Securities Co., Ltd.) (incumbent)
April 2011	President, The Totan Information Technology Co., Ltd.
March 2012	Audit & Supervisory Board Member of the Company (incumbent)

Setsu Onishi, Hiroyuki Tezuka, Tetsu Moriki, Toshiharu Kato, Kiyomi Saito

SETSU ONISHI *Outside Member*

April 1978	Joined The Industrial Bank of Japan, Ltd. (currently Mizuho Bank, Ltd.)
April 2005	Corporate Officer; General Manager, 14th Marketing Department, Mizuho Corporate Bank, Ltd. (currently Mizuho Bank, Ltd.)
April 2007	Managing Corporate Officer, in charge of Global Syndication Unit and Global Products Unit
April 2010	Vice President; Corporate Officer; General Manager, Internal Audit Division, Mizuho Financial Group, Ltd.
June 2010	Director; Vice President; Corporate Officer; General Manager, Internal Audit Division, Mizuho Financial Group, Ltd.
April 2011	Director; Mizuho Financial Group, Ltd.
June 2011	Director; Vice President, IBJ Leasing Company, Limited
April 2013	Director; President, IBJ Leasing Company, Limited
June 2016	Councilor, Mizuho Financial Group, Ltd.
April 2017	Senior Counselor, Nippon Commercial Development Co., Ltd. (incumbent)
June 2017	Director, NS United Kaiun Kaisha, Ltd. (incumbent)
March 2018	Audit & Supervisory Board Member of the Company (incumbent)

Corporate Officers

Chief Executive Officer

KOHEI MORIKAWA

Senior Managing Corporate Officer

JIRO ISHIKAWA

General Manager, Device Solutions Division; Officer in charge of Electronics Materials Division

Managing Corporate Officers

JUN TANAKA

Chief Technical Officer (CTO); Officer in charge of Advanced Battery Materials Division, Institute for Integrated Product Development, Advanced Technology Laboratory, and Corporate R&D and Intellectual Property departments

HIDEHITO TAKAHASHI

General Manager, Carbon Division; Officer in charge of Ceramics Division, Yokohama and Shiojiri plants, and Corporate Strategy Department

MASAMICHI YAGISHITA

General Manager, Electronic Chemicals Division; Officer in charge of Functional Chemicals Division, and Higashinagahara, Tokuyama, Isesaki, and Tatsuno plants

Corporate Officers

KEIICHI KAMIGUCHI

Chief Risk Management Officer (CRO); Officer in charge of Internal Audit, Legal, CSR & General Affairs, Human Resources, and Purchasing & SCM departments

KANJI TAKASAKI

Officer in charge of Aluminum Rolled Products, Aluminum Specialty Components, and Aluminum Can divisions, Oyama and Kitakata plants

YOUICHI TAKEUCHI

Plant Manager, Kawasaki Plant

TAKAYUKI SATO

General Manager, Electronics Materials Division; Deputy General Manager, Device Solutions Division; Officer in charge of Chichibu Plant

MOTOHIRO TAKEUCHI

Chief Financial Officer (CFO); General Manager, Finance & Accounting Department; Officer in charge of Information Systems Department

TAICHI NAGAI

Oita Complex Representative

KOICHI NISHIMURA

General Manager, Industrial Gas Division; Officer in charge of Basic Chemicals Division and Kawasaki Plant

MASUNORI KAIHO

General Manager, Production Technology Department; Officer in charge of Energy & Electricity, SPS Innovation and Responsible Care departments

MASAO SHIBUYA

General Representative in China; General Manager, China Office, Corporate Strategy Department

AKIHIRO JIMBO

General Manager, Basic Chemicals Division

TESTUO WADA

General Manager, Institute for Integrated Product Development

HIROTSUGU FUKUDA

General Manager, Petrochemicals Division; Officer in charge of Oita Complex

EISHI WAKUTSU

General Manager, Corporate Strategy Department

Corporate Governance

Message from Hideo Ichikawa, Chairman of the Board

The Showa Denko Group views further strengthening of corporate governance as one of the top-priority management issues. In December 2015, the Company established Corporate Governance Basic Policies, aiming to promote constructive dialogue with stakeholders, thereby increasing corporate value and shareholders' common interests. Guided by the Basic Policies, we updated our Corporate Governance Report, and we are promoting constructive dialogue with investors and shareholders.

In 2018, we maintained a system under which outside directors accounted for three out of the nine members of the Board of Directors, as we had in the previous year. For the Audit & Supervisory Board, three out of the five members are outside members. Those outside board members are experts from the insurance and financial industry, manufacturing, academia, and the Law. They give us valuable advice and comments from various perspectives. Both boards have high attendance rates, and keenly discuss a wide variety of matters relating to the Group's management. Especially in 2018, during the process to formulate the new medium-term business plan, members of the two boards keenly discussed various matters, including structural reforms, M&As, capital investments, and improvement in return to shareholders.

Under the new medium-term consolidated business plan The TOP 2021, aiming to continue to be a corporate group that has a sound present and a promising future, the Showa Denko Group will aggressively invest in plants and equipment by making the best use of the fruits of the structural reforms that we have been conducting for a long time, and will thereby expand the scale of business and improve profitability. Throughout the three-year period of The TOP 2021, the Group will establish a solid foundation for growth, aiming to become a *Koseiha* Company (individualized company) which is an aggregate of *Koseiha* Businesses (individualized businesses). We will continue striving to further strengthen our corporate governance and enhance our value. With regard to SDGs, on the basis of Our Code of Conduct which includes our pledge to "maintain and improve the global environment," the whole Showa Denko Group will positively develop, produce, and sell products and services that contribute to achievement of the SDGs, thereby enhancing our value as a "company contributing to the sound growth of society." We look forward to the continued support of our investors and shareholders.

Hideo Ichikawa
Chairman of the Board

1. Basic Concept of Corporate Governance

We will promote corporate governance to ensure the soundness, effectiveness, and transparency of management, and to continue enhancing our corporate value, thereby contributing to the sound growth of society and earning its full trust and confidence. To that end, it is essential for us to strengthen relations with our stakeholders, including shareholders, customers, suppliers, community residents, and employees. Based on the above, we have clarified our mission in the form of the Group's vision, as stated below, and we are working hard to realize this vision.

VISION

We at the Showa Denko Group will provide products and services that are useful and safe and exceed our customers' expectations, thereby enhancing the value of the Group, giving satisfaction to our shareholders, and contributing to the sound growth of international society as a responsible corporate citizen.

* Please visit our website (URL: http://www.sdk.co.jp/english/about/governance.html) for our Corporate Governance Basic Policies.

2. Supervisory and Decision-Making Functions

We have adopted the Audit & Supervisory Board system to enhance the fairness and transparency of management, ensuring efficient management of the Company. To clearly separate management supervision from business execution, we have introduced a corporate officer system. The top management team, consisting of the President and corporate officers in charge of their respective operations, is working to increase the speed of decision-making and to vitalize operations. At the same time, the Company has substantially reduced the number of directors.

In addition, we have strengthened supervisory functions by appointing outside directors. To strengthen the independence and objectivity of the Board of Directors, and accountability of the Board of Directors, the Company has established the Nomination Advisory Committee and the Remuneration Advisory Committee as advisory bodies to the Board of Directors. The majority of each committee consists of independent outside directors and outside members of the Audit & Supervisory Board. At board meetings held once or twice a month, the board decides on the Company's basic policy and decides, after full deliberation, on matters provided for in the Companies Act and the Company's Articles of Incorporation as well as important matters for the execution of the Company's operations, ensuring a speedy and vigorous decision-making process.

We appoint directors from the viewpoint of strengthening corporate governance, aiming to strengthen the Board of Directors' supervisory functions and to ensure the propriety of the decision-making process.

We make sure that corporate officers whose duties are primarily business execution will not concurrently serve as directors, in principle. Furthermore, we have abolished the positions of managing directors and senior managing directors to put all directors (except for the Chairman, and the President) on an equal footing, while strengthening the supervision by Audit & Supervisory Board members (including outside members) and mutual supervision among directors. The term of office of directors has been shortened to one year to ensure a quick response to changes in the business environment and to clarify the management responsibility of directors. At the Company's ordinary general meeting of shareholders held on March 28, 2019, nine directors, including three outside directors, were appointed.

3. Business Execution

The Management Committee, which meets once a week in principle and is chaired by the President, deliberates and decides on matters to be referred to the Board of Directors' meetings and important matters for the overall management of the Company. The decisions are made after deliberations on two occasions. For investment plans, their risks are examined by task teams before referral to the Management Committee, and their progress is monitored after authorization.

The Company's medium-term business plans are decided not only by the Management Committee but also by the participation of all corporate officers. The Company considers that responsible execution forms the basis of corporate activities. The Company evaluates the performances of business segments to ensure the effective implementation of the performance-based evaluation system. The Company has Security Export Control and Safety Measures committees under the direct supervision of the President. The Company also has Responsible Care, Risk Management, Human Rights/Corporate Ethics, and IR promotion councils under the Management Committee chaired by the President. These committees and councils investigate, study, and deliberate on specific matters important for the execution of business.

4. Audit & Supervisory Functions

The Company's Audit & Supervisory Board has five members, including three outside members. The members attend the Board of Directors' meetings and other important internal meetings, offering opinions as necessary. They audit and supervise the execution of operations through field investigations, by hearing sessions, and by reading important documents, making proposals and providing advice and recommendations to ensure the sound management of the Company. They are working to strengthen the consolidated audit & supervisory board system in cooperation with auditors of major associated companies.

The Internal Audit Department reports directly to the President and investigates the overall execution of business, checking for accuracy, propriety, and efficiency. It also investigates management policies as well as business plans and their execution, checking for consistency and soundness. The results of internal auditing are reported to the members of the Audit & Supervisory Board to ensure consistency with their audits.

For matters relating to the environment and safety, the divisions in charge conduct Responsible Care audits. KPMG AZSA LLC audits the Company based on an auditing contract and an annual plan agreed upon with the Audit & Supervisory Board, and provides the board with audit results. The auditing corporation and the Audit & Supervisory Board exchange information and views from time to time to strengthen cooperation.

5. Compliance and Risk Management

The Company's Board of Directors has decided to strengthen compliance and promote risk management as key components of the internal control system. The Board will continue to work on these issues.

For the details of our policies on compliance and risk management, please visit our websites:
http://www.sdk.co.jp/english/csr/compliance.html
http://www.sdk.co.jp/english/csr/risk_management.html

6. Other Items

Remuneration, etc., to the members of the Board of Directors and the Audit & Supervisory Board as well as the auditing corporation (for the period from January 1 through December 31, 2018) is as follows:

Remuneration, etc., for Board Members

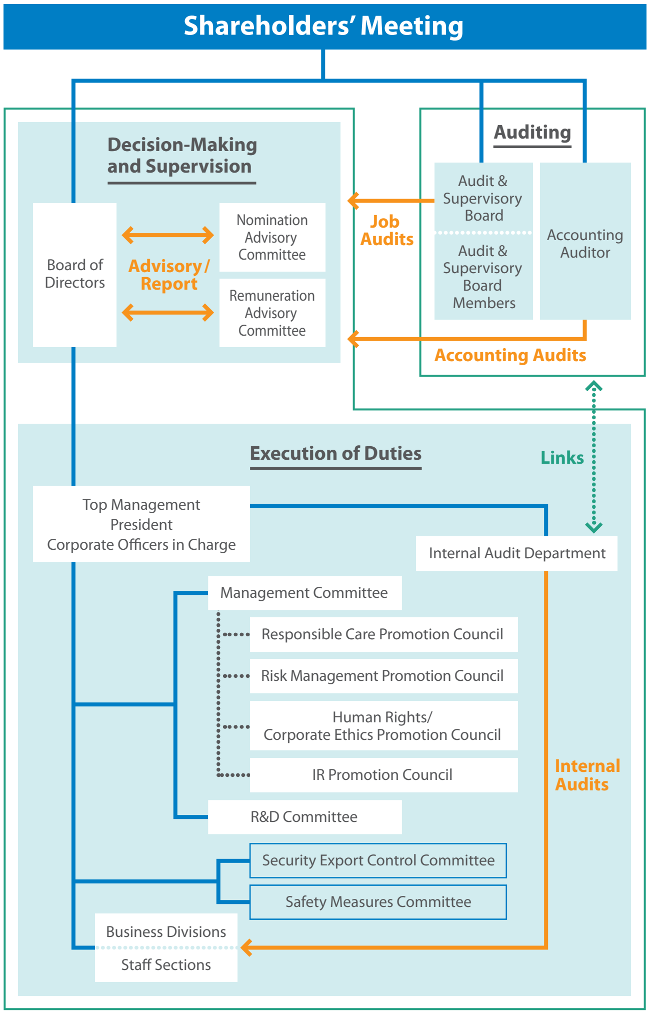
	Number of applicable persons	Paid amount
Members of the Board of Directors (excluding outside members)	6	¥305 million
Members of the Audit & Supervisory Board (excluding outside members)	3	¥ 56 million
Outside board members	8	¥ 68 million
Total	17	¥429 million

Remuneration for Auditing Corporation

	Paid amount
Name of accounting auditor: KPMG AZSA LLC Remuneration for issuing an auditing certification based on the auditing contract	¥194 million

7. Personal/Financial Relations and Interests among the Company and Outside Board Members

The Company has three outside members each for both the Board of Directors and the Audit & Supervisory Board. None of them has special interests in the Company. An outline of the Company's corporate governance system is shown below.



Research and Development

Our R&D strategy in the new medium-term business plan The TOP 2021 is to continue taking measures to make existing businesses *Koseiha* Businesses (individualized businesses) and to give priority to establishing pipelines to create new businesses.

To promote the individualization of existing businesses, we have reorganized the Institute for Integrated Product Development, which had been established in 2016, and will accelerate and expand the "deepening" and "fusion" of technologies, and share them in the whole company. Besides, by making the Institute for Integrated Product Development function as an organization to pool technical engineers for the whole company, we will promote the creation of innovative technologies and human resource development through a fusion of diverse engineers and technologies. In this way, we will strengthen our system to make the best use of human resources in terms of quality and quantity. We will also promote open innovation and M&As to introduce necessary technologies from outside entities.

To accelerate the creation of new businesses through our value-added pipelines, we will strengthen our marketing function to grasp market and technology trends and identify targets for R&D, and invest our R&D resources intensively in ten technical fields, which includes multi-material / adhesion of different materials and the process to produce next-generation semiconductors. The ten notable technical fields correspond to seven business domains, transportation, energy, lifestyle, electronics, construction/infrastructure, industrial equipment, and life science & healthcare.

To execute these measures, we will increase R&D personnel by about 10% and R&D investment by about 30% during the period of The TOP 2021.

In addition, we have established the Advanced Technology Laboratory whose mission is to search for and plan next-generation R&D themes using a liberal way of thinking, free from trends in existing business fields and industries.

Through these measures, we will create a culture of technology-based corporate development represented by the key words "deepening (strengthening and handling down)," "fusion," and "introduction."

To realize the concept of The TOP 2021, we will establish a complex called Stage for Fusion which will accelerate deepening, fusion and the introduction of technologies inside and outside the company. Stage for Fusion will be built next to the Yokohama Plant, and will come into service in 2022.

By strengthening our R&D activities, we will create products and services that "touch the heart," and will act to offer solutions that make society better.

Under the medium-term business plan The TOP 2021, we plan to invest ¥71.0 billion in R&D in the three years from 2019 through 2021. We will continue to strengthen existing businesses and give priority to setting up pipelines to create new businesses.

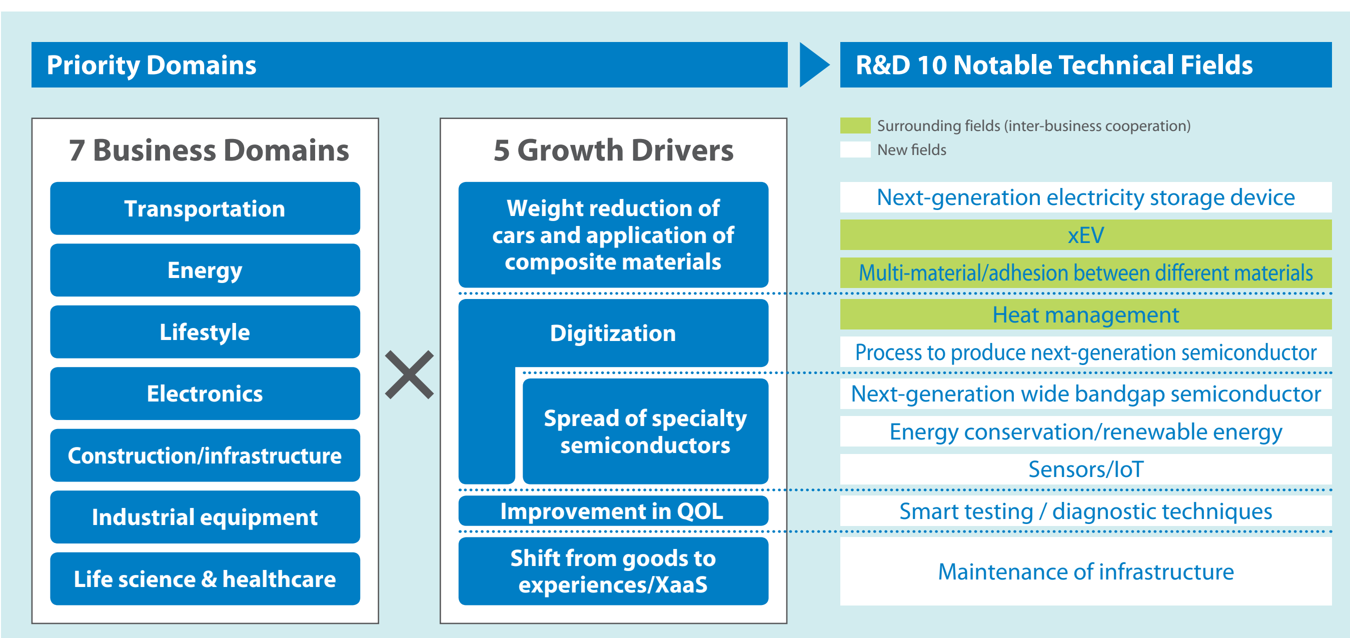
1. Establishment of pipelines to create new businesses

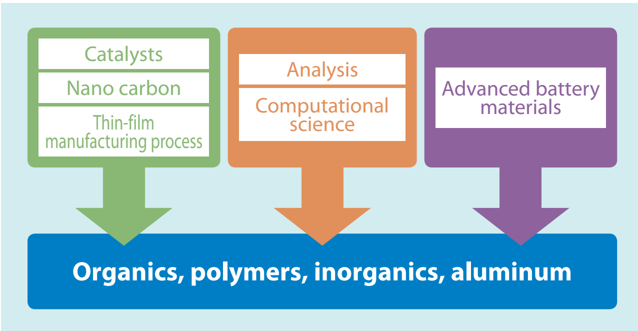
To set up pipelines to create new businesses, we will invest our R&D resources intensively in ten notable technical fields corresponding to seven business domains.

To support this R&D investment program, we will make the best use of 1) technical research activities including technical marketing, which is to investigate trends in advanced technologies and help researchers to set new R&D themes, 2) inter-business cooperation in which several divisions cooperate to collect knowledge and suggest solutions to produce target products, and 3) an in-house campaign to collect ideas from employees. In addition, we will positively make effective use of open innovation and M&As, aiming to search for R&D themes by introducing technologies from outside entities.

2. Expanding the role of the Institute for Integrated Product Development

The institute for Integrated Product Development (IIPD) has been developing new products through the fusion of technologies in the fields of organics, polymers, aluminum, and inorganics, and has successfully developed many products. On the other hand, we have





made so much progress in R&D themes pursued by the Institute for Advanced and Core Technology (IACT), and now we can expect to obtain results. Therefore, we have decided to have IIPD take over those R&D themes pursued by IACT, and continue to strengthen existing businesses. As a result of this change, IIPD can now additionally fuse technologies for batteries, carbon and thin film, and will aim to strengthen their R&D capability further. Moreover, we have integrated operation of the Analysis & Physical Properties Center and Computational Science and Technology Information Center into that of IIPD, aiming to accelerate our R&D processes and obtain results more swiftly.

The Advanced Technology Laboratory, which was newly organized in January 2019 under a mission to research next-generation R&D themes and state-of-the-art technologies, will research R&D themes from the perspective of SDGs and ELSI (ethics, legal and social issues).

3. New complex Stage for Fusion

To realize the concept of The TOP 2021, we establish a complex Stage for Fusion, which will accelerate deepening, fusion, and introduction of technologies inside and outside the Company. At Stage for Fusion, we will 1) search for products and technologies that will become important for society in the future and pursue ways to put them into practical use, 2) improve technologies related to electronics materials and contribute to the realization of Society 5.0*, and 3) create methods to accelerate development of materials by making effective use of AI (artificial intelligence). In this way, we will conduct R&D programs to develop integrated products with the assistance of analytical technologies and computational science, thereby creating new value.

*Society 5.0 was proposed by the Japanese Government in the 5th Science and Technology Basic Plan as a future society that Japan should aspire to. It follows the hunting society (Society 1.0), agricultural society (Society 2.0), industrial society (Society 3.0), and information society (Society 4.0).

New complex Stage for Fusion

R&D Expenditures in 2018

(Millions of yen)

Petrochemicals	Chemicals	Electronics	Inorganics	Aluminum	Others	**Total**
1,414	2,703	5,157	586	1,860	8,015	**19,735**

TOPICS Expanded capacity to produce high-grade SiC epitaxial wafers

SDK expanded the capacity to produce high-quality-grade silicon carbide (SiC) epitaxial wafers for power semiconductors, which had been marketed under the trade name of High-Grade Epi (HGE), for the third time in the last three years. SDK has been gradually expanding the capacity to produce wafers*, which was 3,000 per month in the first half of 2017. After the latest expansion work completed in February 2019, SDK's HGE production capacity became 9,000 wafers per month, or three times as much as the first half of 2017. SDK's SiC epitaxial wafers business has been acclaimed by power semiconductor manufacturers, our customers, for the lowest incidence of crystal defects and the highest homogeneity of wafers in the world. SDK expanded the HGE production facilities to respond to the growing need of our customers for HGE resulting from the rapid growth of the market for SiC-based power semiconductors. When compared with current mainstream silicon-based semiconductors, SiC-based power semiconductors can operate high temperatures, high voltage, and high currents, while conserving energy. These features enable device manufacturers to produce smaller, lighter, and more energy-efficient next-generation power control modules. In addition to use in power modules for dispersion power sources to utilize new energy sources, power modules for servers in data centers, and inverter modules for railcars, SiC-based power semiconductors are now replacing conventional silicon-based semiconductors for use in on-board battery chargers and rapid charging stations for EVs, in parallel with the rapid expansion of the EV market. SDK will continue improving the quality of SiC epitaxial wafers products and supplying them to the rapidly growing SiC power semiconductor market in timely and stable manner, while securing a top-level market share.

* This number is based on a conversion into SiC epitaxial wafers for power devices withstanding a voltage of 1,200 V.

Corporate Social Responsibility

Safe and stable operation provides the basis for our business

The Showa Denko Group, which is a chemical manufacturer, gives first priority to safety, deeming it the foundation of our business. Based on this recognition, we launched the Active Safety activities* in 2007. We will further enhance the activities to prevent occupational accidents, equipment-related incidents, and environmental problems.

We are also conducting Responsible Care activities to give due consideration to the environment, safety, and human health throughout the life cycle of chemical substances, including at the development, manufacture, disposal, and recycling stages.

These activities are a core part of the Group's CSR activities. We will step up our Responsible Care, Active Safety, and other activities in the four fields of Safety and disaster prevention, Occupational safety and health, Chemical substance safety, and Environmental safety to provide society and customers with products, technologies, and services that meet their needs in a safe and stable way for use with peace of mind.

Toward the creation of a sustainable society

The Sustainable Development Goals (SDGs) are 17 goals to be attained by the international community by 2030 to meet global social challenges. The SDGs target all countries and are intended to create a society where "no one is left behind." For the SDGs, greater public attention has been focused on measures implemented by companies. The Showa Denko Group has been supplying "products and services that are useful and safe and exceed our customers' expectations." Toward the creation of a sustainable society, we will continue to contribute to the solution of global social issues, including climate change, depletion of resources, demographic changes, urbanization, multipolarization of the world economy, and changes in the feedstock/energy resource market.

Promoting dialogue with stakeholders

The public has recently been paying more attention to environmental, social, and governance (ESG) measures taken by companies. Amid rapid changes in the social and economic environment, we need to meet the expectations of all stakeholders, for which we need to foster direct dialogue with stakeholders and identify what they expect of the Showa Denko Group. We will attach importance not only to IR-related dialogues but also to dialogues with Group employees in charge of CSR activities in Japan and abroad. We will foster constructive dialogues with stakeholders through the Group's aluminum can recycling and local community contribution activities, thereby raising individual employees' CSR awareness and improving the quality of our CSR activities.

*Active Safety activities: The Showa Denko Group's unique activities in which we analyze past accidents and problems, and take measures to prevent their reoccurrence.

Showa Denko Group's Resource Use and Environmental Impact in 2017

Actual values of environmental loads for 2017

Input

Energy
(Crude oil equivalent)

Showa Denko K.K. only
970 Ml (-30 Ml)

Group companies*1
230 Ml (+40 Ml)

Water

Showa Denko K.K. only
54.60 Mm³ (+0.49 Mm³)

Group companies
5.13 Mm³ (+0.52 Mm³)

Raw materials

Showa Denko Group

Internal use

Showa Denko K.K. only
9,199 t (+6,194 t)

Group companies
0 t

Waste Reduction

Showa Denko K.K. only
61,690 t (-899 t)

Group companies
8,726 t (+823 t)

Output

Products

Emission of air pollutants:	SDK only	Group companies
Greenhouse gases (kt-CO_2)	2,175 (-36)	570 (+95)
SO_X (t)	326 (+2)	4 (0)
NO_X (t)	1,324 (+69)	21 (-2)
Soot and dust (t)	71 (+8)	1 (0)
JCIA PRTR-listed substances (t)	145 (-3)	415 (+173)
JCIA Toxic atmospheric pollutants (t)*2	14 (+1)	1 (0)

Emission of water pollutants:	SDK only	Group companies
COD (t)	346 (-14)	18 (+14)
Total nitrogen (t)	457 (-23)	2 (+1)
Total phosphorus (t)	8 (0)	0 (0)
JCIA PRTR-listed substances (t)	15 (+1)	1 (0)
Wastewater volume (kt)	28,582 (+1,962)	4,475 (+742)

Emission of soil pollutants:	SDK only	Group companies
JCIA PRTR-listed substances (t)	0 (0)	0 (0)

Industrial waste discharge:	SDK only	Group companies
Total waste discharged to outside (t)	24,166 (+4,128)	13,145 (+3,785)
Reused by third parties (t)	12,729 (+1,873)	8,893 (+3,119)
Volume reduction by consignee (t)	11,082 (+2,154)	4,161 (+694)
Final landfill disposal (t)*3	356 (+102)	92 (+23)

*1 Scope of the Showa Denko Group: Total for the 10 consolidated manufacturing subsidiaries in Japan; SunAllomer Ltd., (2017-), Showa Denko Gas Products Co., Ltd., Showa Denko Ceramics Co., Ltd. (Toyama), Showa Aluminum Can Corp., Showa Denko Packaging Co., Ltd., Niigata Showa K.K., Nippon Polytech Corp., Showa Denko Kenso Co., Ltd., Showa Denko HD Yamagata K.K., and Showa Fine Ceramics Co., Ltd. GHG emissions include those for Showa Denko Electronics K.K., and Tsurusaki Kyodo Doryoku Co., Ltd., and exclude those for Niigata Showa K.K., Nippon Polytech Corp., Showa Denko Kenso Co., Ltd., and Showa Fine Ceramics Co., Ltd., which are not required to report emissions as emitters designated under the Act on Promotion of Global Warming Countermeasures.
*2 Emissions of toxic atmospheric pollutants are included in emissions of PRTR-listed substances.
*3 Final landfill disposal includes only waste generated from production activities during the year.

Figures in parentheses show increases or decreases relative to the previous year.

Please visit our websites

CSR site	http://www.sdk.co.jp/english/csr.html
Integrated reports	http://www.sdk.co.jp/english/csr/report/csr_report.html

Management's Discussion and Analysis

Results of Operations

The Group recorded consolidated net sales of ¥992,136 million (US$8,938 million) in 2018, up 27.1% from the previous year. The sales in the Electronics segment decreased due to a lower shipment volumes of HD media for mobile PCs. However, the sales in the Inorganics segment considerably increased due partly to the effect of the business integration in our graphite electrode business, which took place in the second half of 2017, and a rise in market prices of graphite electrodes. In the Petrochemicals segment, sales increased due to a rise in market prices of products resulting from a rise in raw naphtha price, despite a decrease in production resulting from the large-scale periodic shutdown maintenance of ethylene production facilities. Sales in the Chemicals, Aluminum, and Others segments also increased due to higher shipment volumes.

The cost of sales went up ¥102,115 million, or 16.9%, to ¥705,003 million (US$6,351 million), reflecting the increase in net sales.

Selling, general and administrative expenses rose ¥7,340 million, or 7.4%, to ¥107,130 million (US$965 million), due partly to the higher transportation cost. R&D expenditures rose ¥1,196 million to ¥19,735 million (US$178 million).

Operating income of the Group substantially increased by 131.6%, or ¥102,295 million over the previous year, to ¥180,003 million (US$1,622 million). In the Petrochemicals segment, operating income decreased due mainly to the large-scale shutdown maintenance. The Electronics and Aluminum segments also recorded lower income. However, the Inorganics segment recorded considerably higher income due to the effect of the business integration in graphite electrode business and a rise in the market prices of graphite electrodes. The Chemicals and Others segments also recorded higher income.

Information by Business Segment

A breakdown of net sales and operating income by business segment is as follows.

Petrochemicals

Production of ethylene and propylene decreased from the previous year due to periodic shutdown maintenance of ethylene production facilities which is conducted once every four years. Sales of olefins rose due to a rise in the market prices of products resulting from a rise in raw naphtha price, despite a decrease in production quantities resulting from the large-scale periodic shutdown maintenance of ethylene production facilities. Sales of organic chemicals increased due to a rise in prices of products including ethyl acetate and vinyl acetate.

As a result, sales in the Petrochemicals segment increased ¥17,751 million, or 7.1% over the previous year, to ¥268,879 million (US$2,422 million). However, this segment recorded operating income of ¥20,333 million (US$183 million), down ¥13,024, or 39.0% from the previous year due mainly to the large-scale periodic shutdown maintenance and a decrease in spreads between raw naphtha price and market prices of cracked fuel oil and the raw material for butadiene.

Chemicals

Production of liquefied ammonia decreased slightly from the previous year. However, production of high-purity gases for electronics increased. In the basic chemicals business, sales of liquefied ammonia dropped slightly due to a decrease in shipment volumes. However, sales of acrylonitrile and chloroprene rubber increased due to a rise in market prices. Sales of electronic chemicals went up due to higher shipment volumes of high-purity gases for electronics caused by an increase in production in the semiconductor and display panel industries. Sales of industrial gases increased due to higher shipment volumes of carbon dioxide and dry ice. Sales of functional chemicals also rose due to higher sales prices of products reflecting a rise in prices of raw materials.

As a result, sales in the Chemicals segment increased ¥7,782 million, or 5.2% over the previous year, to ¥156,541 million (US$1,410 million). The segment recorded operating income of ¥17,393 million (US$157 million), up ¥919 million, or 5.6% over the previous year.

Electronics

Production of HD media in 2018 fell from the previous year due mainly to a weakness in shipment volumes of HD media for use in PCs, though the demand for HD media for use in servers for data centers remained strong. Thus the sales of HD media dropped, reflecting a decrease in sales volumes. Sales of compound semiconductors increased due to higher shipment volumes. However, sales of rare earth magnetic alloys fell due to reforms in business structure. Sales of lithium-ion battery (LIB) materials increased due to higher shipment volumes to China.

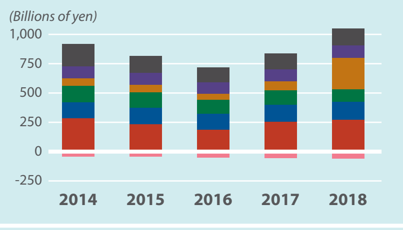
As a result, the Electronics segment's sales decreased ¥17,241 million, or 14.0% from the previous year, to ¥105,823 million (US$953 million). The segment recorded operating income of ¥12,397 million (US$112 million), down ¥9,528 million, or 43.5% from the previous year.

Inorganics

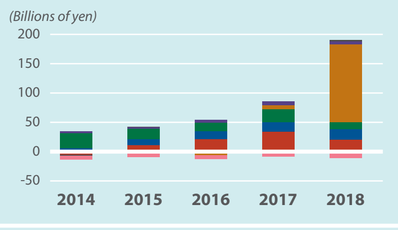
Production of graphite electrodes increased from the previous year due to a rise in output from the electric steel industry as the customer. Sales of graphite electrodes went up sharply due to consolidation of SHOWA DENKO CARBON Holding GmbH in the second half of 2017, in addition to a rise in sales prices of graphite electrodes in the global market caused by higher production of electric steel in China resulting from enforcement of stricter environmental policy, and the tight supply-demand situation resulting from an electric steel production on a global scale, especially in the U.S. market. Sales of ceramics decreased due mainly to a fall in shipment volumes of general-purpose alumina caused by SDK's withdrawal from PT. Indonesia Chemical Alumina (ICA), despite higher shipment volumes of abrasives and fine ceramics for electronics.

As a result, sales in the Inorganics segment increased ¥192,707 million, or 262.4% over the previous year, to ¥266,149 million (US$2,398 million). This segment recorded operating income of ¥132,445 million (US$1,193 million), up ¥125,466 million over the previous year.

Net Sales by Segment



Operating Income by Segment



Aluminum

Production of high-purity foil for aluminum electrolytic capacitors increased from the previous year. Sales of rolled products went up due to higher shipment volumes of high-purity foil for aluminum electrolytic capacitors for use in industrial equipment and automotive applications. Sales of aluminum specialty components increased slightly due to a rise in product prices caused by higher price of aluminum ingots. Sales of aluminum cans slightly fell due to lower shipment volumes to the domestic market.

As a result, sales in the Aluminum segment increased ¥2,815 million, or 2.7% over the previous year, to ¥108,254 million (US$975 million). However, operating income of the segment decreased ¥1,755 million, or 26.2% from the previous year, to ¥4,942 million (US$45 million).

Others

Sales in the Others segment increased ¥9,789 million, or 7.3% over the previous year, to ¥143,413 million (US$1,292 million) due mainly to the increase in Shoko Co., Ltd.'s sales and shipment volumes of SiC epitaxial wafers for power devices. Operating income of the segment rose by ¥2,260 million, or 357.0% over the previous year, to ¥2,893 million (US$26 million).

Information by Geographic Area

Sales in Japan

Sales in the Petrochemicals segment increased due to a rise in market prices of products resulting from higher raw naphtha prices. Sales in the Chemicals segment went up due to an increase in shipment volumes of high-purity gases for electronics caused by a production increase in the semiconductor and display panel industries and a rise in the market price of acrylonitrile. Sales figures of the Electronics segment fell due to lower shipment volumes of HD media, despite increased shipment volumes and sales of compound semiconductors. In the Inorganics segment, sales rose due to an increase in market prices and sales volumes of graphite electrodes, and an increase in shipment volumes of ceramics for electronics including titanium oxide and thermo-conductive fillers. Sales in the Aluminum segment rose due to higher sales volumes of high-purity foil for aluminum electrolytic capacitors and an increase in sales of aluminum specialty components resulting from a rise in price of aluminum ingots. Sales figures of the Others segment rose due to an increase in Shoko Co., Ltd.'s sales and higher shipment volumes of SiC epitaxial wafers, for which we have been increasing our productive capacity. As a result, consolidated sales from operations in Japan rose ¥47,170 million, or 9.4%, to ¥551,333 million (US$4,967 million).

Sales in Asia (excluding Japan)

Sales in the Petrochemicals segment in Asia fell due to a decline in the export of olefins resulting from periodic shutdown maintenance of ethylene production facilities conducted once every four years. Sales in Asia for the Chemicals segment increased. For the basic chemicals business, sales of chloroprene rubber rose due to an increase in export volumes. For the electronic chemicals business, sales went up due to an increase in shipment volumes of high-purity gases for electronics caused by higher production in the semiconductor and display panel industries in East Asia. For the functional chemicals business, sales increased due to a rise in market prices of products resulting from a rise in raw material prices. The Electronics segment's sales went down due to lower shipment volumes of HD media resulting from a decline in demand for HDDs used in PCs. Sales in the Inorganics segment rose due mainly to a rise in prices of graphite electrodes in the global market and the full-year contribution from SHOWA DENKO CARBON Holding GmbH, which was consolidated in the fourth quarter of 2017, to the increase in sales. Sales in the Aluminum segment increased due to higher shipment volumes of aluminum cans recorded by Hanacans Joint Stock Company in Vietnam. Sales in the Others segment decreased due to lower sales recorded by Shoko Co., Ltd.

As a result, consolidated sales from operations in Asia (excluding Japan) increased ¥9,241 million, or 4.0% over the previous year, to ¥239,885 million (US$2,161 million).

Sales in the Rest of the World

Sales in the rest of the world increased substantially due mainly to a rise in sales in the Inorganics segment. Showa Denko Carbon Inc., our U.S. subsidiary producing graphite electrodes, recorded higher sales due mainly to a rise in graphite electrode prices in the global market. SHOWA DENKO CARBON Holding GmbH, which was consolidated in the fourth quarter of 2017, also contributed to the increase in sales in the Inorganics segment throughout 2018.

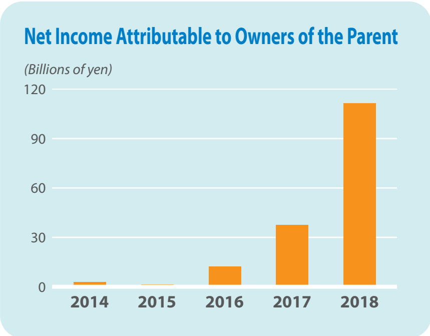
As a result, consolidated sales from operations in the rest of the world increased ¥155,338 million, or 340.8% over the previous year, to ¥200,919 million (US$1,810 million).

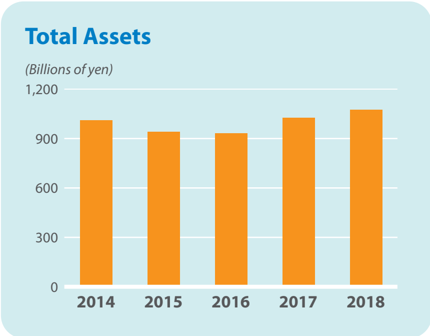
Other Income (Expenses) and Net Income Attributable to Owners of the Parent

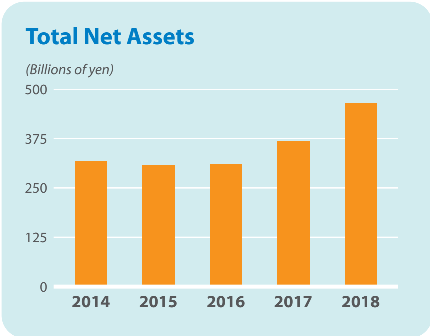
The gap between interest expenses and interest and dividends income improved ¥578 million to expenses of ¥629 million (US$6 million), mainly from an increase in interest income.

We recorded a gain on the equity in earnings of unconsolidated subsidiaries and affiliates to which the equity method is applied of ¥1,253 million (US$11 million), an improvement of ¥8,942 million. This gain was due mainly to a backlash from the previous year's recording of an impairment loss on the equity in earnings of unconsolidated subsidiaries and affiliates to which the equity method is applied from ICA.

For foreign exchange gain (losses), the Group recorded foreign exchange losses of ¥347 million (US$3 million) in 2018, an improvement of ¥2,444 million from the previous year due mainly to the recording of a foreign exchange gain from a subsidiary manufacturing HD media in Taiwan caused by the depreciation of the New Taiwan dollar against the







U.S. dollar. In 2017, however, this HD media manufacturing subsidiary in Taiwan recorded foreign exchange losses due to the appreciation of the New Taiwan dollar against the U.S. dollar.

We recorded a loss of ¥4,993 million (US$45 million), net, on retirement and sales of non-current assets, an increase of ¥563 million, due mainly to the recording of retirement losses resulting from removal of old facilities that belonged to the Inorganics, Chemicals, and Petrochemicals segments.

We also recorded a loss of ¥22,573 million (US$203 million) for the impairment loss on fixed assets, an increase of ¥15,369 million, due partly to our recognition of an impairment loss amounting to ¥8,845 million from the business to manufacture aluminum can for beverages operated by SDK and Showa Aluminum Can Corporation, our consolidated subsidiary, and another impairment loss amounting to ¥4,641 million from the business to manufacture lithium-ion battery materials, as a result of our review on the value of businesses taking their business perspectives into consideration. In addition, we recorded impairment loss amounting to ¥5,967 million and ¥1,864 million on idle properties: the Hikone Plant and the Institute for Advanced and Core Technology.

Gain on sales of investment securities increased ¥1,113 million, to ¥1,521 million (US$14 million).

The sum of extraordinary losses, other than those mentioned above, decreased ¥1,792 million from the previous year, to ¥7,626 million (US$69 million), which was due mainly to posting of a loss on valuation of investment securities.

Overall, the total of other income (expenses), net, i.e., the total of non-operating income (expenses) and extraordinary income (expenses), net, deteriorated by ¥7,317 million, to a loss of ¥34,494 million (US$311 million).

As a result, the Company recorded income before income taxes and non-controlling interests of ¥145,509 million (US$1,311 million), up ¥94,978 million from the previous year.

Income taxes increased ¥17,942 million to ¥28,756 million (US$259 million) due to the improvement in the Company's performance. Consequently, the Company recorded net income attributable to owners of the parent of ¥111,503 million (US$1,005 million), up ¥74,099 million over the previous year.

Financial Position

Total Assets

Total assets at the end of 2018 rose ¥48,747 million from the end of the previous year, to ¥1,075,746 million (US$9,691 million), due mainly to the increase in notes and accounts receivable and inventories resulting from a rise in product and raw material prices in our graphite electrode business. Cash and deposits increased ¥35,938 million from the end of the previous year to ¥113,186 million (US$1,020 million).

Net property, plant and equipment decreased ¥27,527 million to ¥478,406 million (US$4,310 million), due mainly to the recording of impairment loss. Total investments and other assets decreased by ¥16,812 million, to ¥97,060 million (US$874 million), due partly to the depreciation in the market valuation of investment securities.

Liabilities

Interest-bearing debt fell ¥58,758 million from the end of the previous year, to ¥287,968 million (US$2,594 million), despite an increase in accounts payable-trade caused by a rise in prices of raw materials for graphite electrodes. Total liabilities fell ¥47,599 million, to ¥610,406 million (US$5,499 million).

Net Assets

Net assets at the end of 2018 amounted to ¥465,340 million (US$4,192 million), up ¥96,346 million over the previous year, due partly to the posting of net income attributable to owners of the parent.

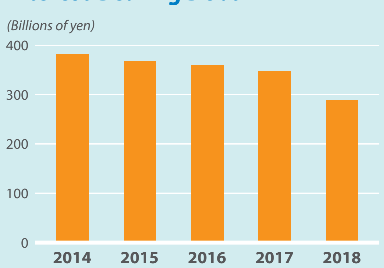
Capital Expenditures

Capital expenditures decreased ¥60 million from the previous year, to ¥41,727 million (US$376 million). Capital expenditures for the Petrochemicals segment increased due to periodic shutdown maintenance, and that for the Others segment increased due to investment in facilities to produce SiC epitaxial wafers for power devices. However, in the Chemicals segment, the amount of capital investment in the electronic chemicals business decreased due to the end of large-scale investment in facilities in 2017 to produce etching gases, though the amount of capital investment continued to be at a high level throughout 2018. In the Electronics segment, investment in facilities to produce HD media in 2018 decreased from the previous year.

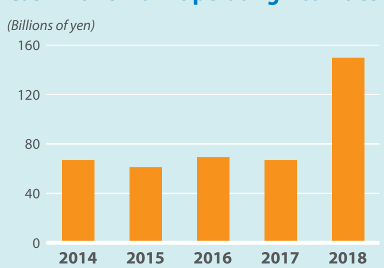
Cash Flows

Net cash provided by operating activities increased ¥82,550 million over the previous year to proceeds of ¥149,785 million (US$1,349 million), due mainly to the increase in net income attributable to owners of the parent. Net cash used in investing activities increased ¥19,472 million, to ¥49,338 million (US$444 million), due partly to a decrease in proceeds from repayment of time deposits. Thus, free cash flow ended up with the proceeds of ¥100,447 million (US$905 million), an improvement of ¥63,078 million. Net cash used in financing activities increased ¥42,691 million due to the reduction in interest-bearing debt, and ended up with the payment of ¥61,061 million (US$550 million). As a result, and due partly to the influence of exchange rate fluctuations, cash and cash equivalents at December 31, 2018 increased ¥36,002 million from the end of the previous year, to ¥112,835 million (US$1,017 million).

Interest-Bearing Debt



Cash Flows from Operating Activities



Risk Factors

We consider we face the risks, as explained below, that could adversely affect our future performance, financial conditions, and cash flows. The Showa Denko Group is taking steps to prevent the realization of these risks and minimize impact on its operations.

The following covers important risk factors considered being present as of March 28, 2019. This list is not inclusive.

1. Substantial fluctuations in the performances of individual businesses

The Group is manufacturing and selling a wide variety of products, such as petrochemicals, chemicals, electronics, inorganics, and aluminum. The following risks are expected in major business fields, but those are not limited to the businesses mentioned below.

(1) Petrochemicals

The Group purchases and imports a large amount of feedstock, including naphtha. When the price of naphtha or other types of feedstock fluctuates due to a change in crude oil prices, a change in supply-demand balance, or a currency fluctuation, and when we cannot secure sufficient spreads between the manufacturing cost and selling prices of products, the Group's performance and financial conditions can be affected. Furthermore, earnings from petrochemicals largely depend on the supply-demand balance. Construction of large plants by competitors and resultant oversupply as well as a sharp decrease in demand due to unfavorable changes in the Japanese or world economies can affect the Group's performance and financial conditions.

(2) HD media

In the Group's HD media business, the sales volume is largely influenced by demand for IT devices and electric appliances. The business requires innovations at a rapid pace and involves fierce international competition. Fluctuations in demand and intensification of competition will cause fluctuations in selling prices. The Group is prepared to develop and provide products meeting the market requirements and has established a global production/marketing setup. However, when market requirements change more quickly than we expected, when supply-demand balance changes substantially, and when exchange rates sharply fluctuate, the Group's performance and financial conditions can be affected.

(3) Inorganics

The Group produces graphite electrodes in Asia, North America, and Europe, and sells those products globally. When the demand for graphite electrodes suddenly decreases due to unfavorable changes in the Japanese or world economies, deterioration in supply-demand balance may not allow us to secure sufficient spreads between the manufacturing cost and selling prices of products, and can affect the Group's performance and financial conditions.

(4) Aluminum

The Group imports a large amount of aluminum metal from overseas sources. When the aluminum ingot price rises due to a rise in LME prices, a rise in premium on aluminum, or a weaker yen, and when we cannot absorb the manufacturing cost increase in the form of higher product prices, the Group's performance and financial conditions can be affected. Furthermore, most of our products are sold as materials and components for the automobile, electric appliance, and electronics sectors. Trends of those industries, which are beyond our control, can substantially affect such businesses.

(5) Overseas operations

The Group is producing and selling in Asia, North America, and Europe. Operations overseas involve such special risks as unexpected changes in laws and regulations, deterioration in political/economic situations, and social disorder due to war and terrorism. Such risks can become real and affect our overseas operations, resulting in adverse impact on the Group's performance and financial conditions.

(6) Mergers, acquisitions, capital tie-up, business reorganization and restructuring

The Group implements mergers, acquisitions, capital tie-up, business reorganization and restructuring at home and abroad with the view of expanding scope of businesses and improving profitability. If these measures do not allow the Group to achieve desired results due to changes in business environment surrounding the Group or other companies to which the Group invests money, these measures may have bad influences upon the Group's performance and financial conditions. In addition, when the Group implements restructuring of its businesses, including withdrawal from unprofitable businesses and restructuring of affiliated companies, the Group's performance and financial conditions can be affected.

2. Unexpected fluctuations in financial conditions and cash flows

(1) Substantial fluctuations in exchange rates

As for foreign-currency-based transactions centering on exports/imports, the Group makes its best efforts to minimize relevant exchange rate fluctuation risks, mainly through exchange contracts. However, substantial fluctuations in exchange rates can affect the Group's performance and financial conditions. In particular, a sharp appreciation of the yen against other currencies can affect the Group's performance. Exchange rate fluctuations can also affect the Group's performance and financial conditions through the conversion of overseas subsidiaries' financial statements into Japanese yen.

(2) Trends in financial markets and changes in the fund-raising environment

The trends in the financial markets and deterioration in the Group's financial indexes can affect the Group's fund-raising and interest expenses: for example, in the form of prompt repayment of a loan owing to the terms of financial covenants. In that event, the Group's performance and financial conditions could be affected.

(3) Employees' severance indemnities

The Group's employees' severance indemnities and expenses are calculated based on various basic rates and the yield of pension assets used in pension calculations. Fluctuations in the current price of pension assets, trends in interest rates, and changes in the retirement benefit/pension systems can affect the Group's performance and financial conditions.

(4) Securities

As the Group owns securities with current prices, fluctuations in stock prices can result in valuation losses, affecting the Group's performance and financial conditions.

(5) Accounting for impairment of fixed assets

The Group has adopted the accounting standard regarding the impairment of fixed assets. The Group may incur additional losses from the impairment of fixed assets as a result of future changes in the current prices of land and other fixed assets or a substantial change in the business environment.

(6) Deferred tax assets

The Group's financial statements include deferred tax assets in relation to temporary differences (differences between the assets/liabilities on the consolidated financial statements and the assets/liabilities in calculation of taxable income). The calculation of deferred tax assets is based on various projections for future taxable income. Thus, when actual taxable income differs from the projections or in case of a revision of the taxation system (including tax rates), it becomes necessary to revise deferred tax assets. That situation could affect the Group's performance and financial conditions.

3. Specific regulations

The Group's businesses are subject to various restrictions as stipulated by laws and regulations. The restrictions relate to industrial safety (such as the Law for Prevention of Disasters at Petroleum Complexes, Etc.; the Fire Service Law; and the High Pressure Gas Safety Law) and the environment and chemical substances (such as the Basic Environment Law; the Air Pollution Control Law; and the Law concerning the Examination and Regulation of Manufacture, Etc. of Chemical Substances). The Group observes these laws and regulations as it conducts its respective businesses. In the event the Group fails to observe any of the laws and regulations, the Group's activities could be restricted. In case stricter regulations are introduced, resulting in higher costs, the Group's performance and financial conditions can be affected.

4. Important lawsuits

While the Group makes its best efforts to observe laws and agreements, the Group may be sued as it conducts its wide-ranging businesses.

5. Others

(1) R&D

Making "Create new value by forging, polishing, and linking diverse individualized technologies" as its basic policy in R&D, the Group concentrates its R&D resources upon research and business development that leads to strengthening of its core businesses and expansion of businesses in their surrounding fields. On the other hand, the Group also strives to create next-generation businesses that make the most of open innovation and M&As. Through strengthening of its core technologies that covers such diverse fields as inorganics, organics and aluminum, and achievement of synergies among these technologies, the Group promotes its R&D programs that aim to create individualized products, technologies, and high-value-added businesses. However, in case the actual results materially differ from original plans, the Group's performance and financial conditions could be affected.

(2) Intellectual property

The Group is making its best efforts to obtain, use, and protect intellectual property, such as industrial property rights and know-how, in recognition of their ability to make the Group's businesses more competitive. The Group also respects other companies' rights. However, in the event of failure to duly obtain or use the rights, infringement by a third party, or if the Group is considered to have infringed a third party's intellectual property, the Group's operations can be hindered and the Group's performance and financial conditions could be affected.

(3) Quality assurance and product liability

The Group has established its internal rules on quality assurance and quality control, as well as organizations for managing and promoting quality assurance. Furthermore, the Group has obtained certification under ISO 9001 standards to ensure strict quality control. However, in the event of a serious quality defect or being sued for product liability, the Group's reputation could be damaged and the Group may be forced to pay compensation to customers. This could affect the Group's performance and financial conditions.

(4) Accidents and disasters

The Group is committed to securing steady and safe operations. The Group conducts regular inspections of all manufacturing facilities in an effort to minimize any risk factors pertaining to the suspension of operations or accidents due to problems with manufacturing facilities. In the event of injury or damage to property due to an accident, a large-scale natural disaster, a cyberattack, etc., the Group's reputation could be damaged. The Group may incur substantial costs in dealing with the situation and may lose business opportunities due to the suspension of production. This could affect the Group's performance and financial conditions. Furthermore, even when the Group's manufacturing facilities are not directly influenced, the Group's production activities may be restricted by trouble with procurement or disruption of supply chains due to accidents at suppliers' sites or a natural disaster, or by a shortage of power supply. These factors could affect the Group's performance and financial conditions.

(5) Impact on environment

The Group is committed to the principles of Responsible Care, which means that we are working to ensure the health and safety of everyone and to protect the environment from harm caused by chemical substances throughout their life cycles, namely, the development, production, distribution, use, and disposal. In the event of causing impact on the environment, the Group's reputation can be damaged. The Group may incur costs, including compensation, lose business opportunities due to the suspension of production, and/or pay compensation to customers. These factors can affect the Group's performance and financial conditions.

Consolidated Balance Sheets

Showa Denko K.K. and Consolidated Subsidiaries

As at December 31, 2018 and 2017

	Millions of yen		Thousands of U.S. dollars (Note 5)
ASSETS	**2018**	2017	**2018**
Current assets			
Cash and deposits (Notes 6 and 7)	**¥ 113,186**	¥ 77,248	**$ 1,019,692**
Notes and accounts receivable (Notes 7 and 10)	**217,200**	194,404	**1,956,761**
Allowance for doubtful accounts	**(1,386)**	(2,849)	**(12,482)**
Inventories	**152,800**	114,913	**1,376,581**
Deferred tax assets (Note 13)	**3,747**	6,898	**33,760**
Other current assets (Notes 7 and 9)	**14,732**	16,581	**132,717**
Total current assets	**500,280**	407,194	**4,507,029**
Property, plant and equipment (Note 11)			
Land (Note 19)	**234,987**	244,713	**2,117,002**
Buildings and structures	**283,303**	287,708	**2,552,281**
Machinery, equipment and vehicles	**900,921**	900,779	**8,116,403**
Construction in progress	**11,106**	16,548	**100,054**
	1,430,317	1,449,748	**12,885,740**
Less : Accumulated depreciation	**(951,911)**	(943,815)	**(8,575,776)**
Net property, plant and equipment	**478,406**	505,933	**4,309,964**
Investments and other assets			
Investment securities (Notes 7, 8, and 11)	**71,886**	89,167	**647,618**
Long-term loans	**71**	1,217	**643**
Net defined benefit asset (Note 12)	**249**	232	**2,243**
Deferred tax assets (Note 13)	**1,590**	1,080	**14,320**
Other (Notes 7 and 9)	**31,596**	32,405	**284,650**
Allowance for doubtful accounts	**(8,332)**	(10,229)	**(75,062)**
Total investments and other assets	**97,060**	113,871	**874,412**
Total assets	**¥ 1,075,746**	¥ 1,026,999	**$ 9,691,405**

See notes to financial statements.

LIABILITIES AND NET ASSETS	Millions of yen 2018	2017	Thousands of U.S. dollars (Note 5) 2018
Current liabilities			
Short-term debt (Notes 7 and 11)	**¥ 81,747**	¥ 91,699	**$ 736,456**
Current portion of long-term debt (Notes 7 and 11)	**41,403**	57,432	**373,000**
Notes and accounts payable (Notes 7, 10, and 11)	**182,890**	171,515	**1,647,662**
Income taxes payable	**10,160**	5,748	**91,535**
Provision for repairs	**64**	4,143	**574**
Provision for bonuses	**3,516**	2,949	**31,678**
Provision for stock payments (Note 3)	**5**	5	**46**
Provision for business structure improvement	**129**	137	**1,161**
Other current liabilities (Notes 7, 9, and 13)	**42,266**	38,206	**380,775**
Total current liabilities	**362,181**	371,835	**3,262,888**
Non-current liabilities			
Long-term debt less current portion (Notes 7 and 11)	**164,818**	197,594	**1,484,847**
Deferred tax liabilities (Note 13)	**6,683**	12,880	**60,211**
Provision for repairs	**1,102**	117	**9,926**
Provision for stock payments (Note 3)	**156**	96	**1,407**
Provision for business structure improvement	**2,876**	3,574	**25,906**
Provision for loss on guarantees	**—**	2,640	**—**
Net defined benefit liability (Note 12)	**22,018**	18,966	**198,365**
Deferred tax liabilities for land revaluation (Note 19)	**32,324**	32,488	**291,208**
Other non-current liabilities (Notes 7 and 9)	**18,248**	17,814	**164,397**
Total non-current liabilities	**248,226**	286,170	**2,236,266**
Contingent liabilities (Note 17)			
Net assets (Note 18)			
Shareholders' equity			
Capital stock			
Authorized, 330,000,000 shares			
Issued , 2018–149,711,292 shares	**140,564**	—	**1,266,338**
Issued , 2017–149,711,292 shares	**—**	140,564	**—**
Capital surplus	**78,911**	61,663	**710,911**
Retained earnings	**197,717**	100,076	**1,781,230**
Less: Treasury stock at cost, 2018–3,836,364 shares	**(11,659)**	—	**(105,038)**
Less: Treasury stock at cost, 2017–7,187,545 shares	**—**	(10,503)	**—**
Total shareholders' equity	**405,532**	291,800	**3,653,441**
Accumulated other comprehensive income			
Valuation difference on available-for-sale securities	**7,489**	16,547	**67,465**
Deferred gains or losses on hedges	**836**	3,781	**7,535**
Revaluation reserve for land (Note 19)	**33,281**	29,541	**299,831**
Foreign currency translation adjustments	**7,069**	15,516	**63,681**
Remeasurements of defined benefit plans (Note 12)	**(8,244)**	(4,716)	**(74,270)**
Total accumulated other comprehensive income	**40,431**	60,670	**364,241**
Non-controlling interests	**19,377**	16,524	**174,568**
Total net assets	**465,340**	368,994	**4,192,251**
Total liabilities and net assets	**¥1,075,746**	¥1,026,999	**$ 9,691,405**

Consolidated Statements of Income

Showa Denko K.K. and Consolidated Subsidiaries

For the years ended December 31, 2018 and 2017

	Millions of yen		Thousands of U.S. dollars (Note 5)
	2018	2017	2018
Net sales	¥ 992,136	¥ 780,387	$ 8,938,162
Cost of sales (Note 21)	705,003	602,888	6,351,379
Gross profit	287,133	177,498	2,586,784
Selling, general and administrative expenses (Notes 20 and 21)	107,130	99,790	965,135
Operating income	180,003	77,708	1,621,649
Other income (expenses)			
Interest and dividends income	2,354	1,893	21,207
Equity in earnings (losses) of unconsolidated subsidiaries and affiliates (Note 22)	1,253	(7,689)	11,290
Gain on sales of investment securities, net (Note 8)	1,521	408	13,703
Loss on valuation of investment securities (Note 8)	(2,583)	(50)	(23,270)
Rent income on non-current assets	1,366	1,381	12,305
Interest expenses	(2,983)	(3,100)	(26,871)
Loss on retirement of non-current assets	(4,851)	(5,310)	(43,706)
Impairment loss (Note 14)	(22,573)	(7,204)	(203,362)
Gain on bargain purchase	—	7,141	—
Gain on liquidation of subsidiaries	361	15	3,254
Provision for loss on guarantees (Note 22)	—	(2,640)	—
Other, net	(8,359)	(12,022)	(75,309)
Total	(34,494)	(27,177)	(310,759)
Income before income taxes and non-controlling interests	145,509	50,531	1,310,890
Income taxes (Note 13)			
Current	25,669	8,053	231,255
Deferred	3,087	2,761	27,813
Net income	116,752	39,717	1,051,823
Net income attributable to non-controlling interests	5,249	2,313	47,287
Net income attributable to owners of the parent	¥ 111,503	¥ 37,404	$ 1,004,535

	Yen		U.S. dollars (Note 5)
Per share amounts			
Net income – primary	¥ 758.15	¥ 262.44	$ 6.83
Cash dividends (applicable to the period)	120.00	80.00	1.08

Note: Net income per share has been computed based on the average number of shares of common stock outstanding during the respective fiscal year.
Diluted net income per share for 2018 and 2017 were not disclosed because there were no dilutive shares.

See notes to financial statements.

Consolidated Statements of Comprehensive Income

Showa Denko K.K. and Consolidated Subsidiaries

For the years ended December 31, 2018 and 2017

	Millions of yen		Thousands of U.S. dollars (Note 5)
	2018	2017	**2018**
Net income	**¥116,752**	¥39,717	**$1,051,823**
Other comprehensive income:			
Valuation difference on available-for-sale securities	**(9,127)**	12,133	**(82,228)**
Deferred gains or losses on hedges	**(2,942)**	3,479	**(26,508)**
Foreign currency translation adjustments	**(7,667)**	1,519	**(69,070)**
Remeasurements of defined benefit plans, net of tax	**(3,556)**	6,294	**(32,034)**
Share of other comprehensive income of unconsolidated subsidiaries and affiliates accounted for using the equity method	**(1,405)**	22	**(12,655)**
Total other comprehensive income (loss) (Note 15)	**¥ (24,697)**	¥23,447	**$ (222,495)**
Comprehensive income	**¥ 92,055**	¥63,165	**$ 829,327**
Comprehensive income attributable to:			
Owners of parent	**87,463**	60,579	**787,953**
Non-controlling interests	**4,593**	2,586	**41,375**

See notes to financial statements.

Consolidated Statements of Changes in Net Assets

Showa Denko K.K. and Consolidated Subsidiaries

For the years ended December 31, 2018 and 2017

	Thousands	Millions of yen										
	Number of shares of capital stock	Capital stock	Capital surplus	Retained earnings	Treasury stock	Valuation difference on available-for-sale securities	Deferred gains or losses on hedges	Revaluation reserve for land	Foreign currency translation adjustments	Remeasurements of defined benefit plans	Non-controlling interests	Total net assets
Balance as at December 31, 2016	149,711	¥ 140,564	¥ 62,033	¥ 65,358	¥ (10,502)	¥ 4,519	¥ 320	¥ 31,026	¥ 14,239	¥ (10,996)	¥ 14,671	¥ 311,231
Dividends from surplus	—	—	—	(4,285)	—	—	—	—	—	—	—	(4,285)
Net income (loss) attributable to owners of the parent	—	—	—	37,404	—	—	—	—	—	—	—	37,404
Purchase of treasury stock	—	—	—	—	(11)	—	—	—	—	—	—	(11)
Disposal of treasury stock	—	—	0	—	10	—	—	—	—	—	—	10
Increase by increase of consolidated subsidiaries	—	—	—	229	—	—	—	—	—	—	—	229
Decrease by increase of consolidated subsidiaries	—	—	—	(97)	—	—	—	—	—	—	—	(97)
Change of scope of the equity method	—	—	—	—	—	—	—	—	—	—	—	—
Change in treasury shares of the parent arising from transactions with non-controlling shareholders	—	—	(370)	—	—	—	—	—	—	—	—	(370)
Reversal of revaluation reserve for land	—	—	—	1,486	—	—	—	—	—	—	—	1,486
Other	—	—	—	(20)	—	—	—	—	—	—	—	(20)
Net changes of items other than shareholders' equity	—	—	—	—	—	12,028	3,461	(1,485)	1,277	6,281	1,854	23,416
Balance as at December 31, 2017	149,711	¥ 140,564	¥ 61,663	¥ 100,076	¥ (10,503)	¥ 16,547	¥ 3,781	¥ 29,541	¥ 15,516	¥ (4,716)	¥ 16,524	¥ 368,994
Dividends from surplus	**—**	**—**	**—**	**(10,117)**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**(10,117)**
Net income (loss) attributable to owners of the parent	**—**	**—**	**—**	**111,503**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**111,503**
Purchase of treasury stock	**—**	**—**	**—**	**—**	**(10,015)**	**—**	**—**	**—**	**—**	**—**	**—**	**(10,015)**
Disposal of treasury stock	**—**	**—**	**17,248**	**—**	**8,859**	**—**	**—**	**—**	**—**	**—**	**—**	**26,107**
Increase by increase of consolidated subsidiaries	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**
Decrease by increase of consolidated subsidiaries	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**
Change of scope of the equity method	**—**	**—**	**—**	**(6)**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**(6)**
Change in treasury shares of the parent arising from transactions with non-controlling shareholders	**—**	**—**	**0**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**0**
Reversal of revaluation reserve for land	**—**	**—**	**—**	**(3,740)**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**(3,740)**
Other	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**
Net changes of items other than shareholders' equity	**—**	**—**	**—**	**—**	**—**	**(9,058)**	**(2,945)**	**3,740**	**(8,447)**	**(3,528)**	**2,853**	**(17,387)**
Balance as at December 31, 2018	**149,711**	**¥ 140,564**	**¥ 78,911**	**¥ 197,717**	**¥ (11,659)**	**¥ 7,489**	**¥ 836**	**¥ 33,281**	**¥ 7,069**	**¥ (8,244)**	**¥ 19,377**	**¥ 465,340**

	Thousands	Thousands of U.S. dollars (Note 5)										
	Number of shares of capital stock	Capital stock	Capital surplus	Retained earnings	Treasury stock	Valuation difference on available-for-sale securities	Deferred gains or losses on hedges	Revaluation reserve for land	Foreign currency translation adjustments	Remeasurements of defined benefit plans	Non-controlling interests	Total net assets
Balance as at December 31, 2017	149,711	$ 1,266,338	$ 555,523	$ 901,583	$ (94,619)	$ 149,072	$ 34,067	$ 266,138	$ 139,783	$ (42,484)	$ 148,869	$ 3,324,270
Dividends from surplus	**—**	**—**	**—**	**(91,144)**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**(91,144)**
Net income (loss) attributable to owners of the parent	**—**	**—**	**—**	**1,004,535**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**1,004,535**
Purchase of treasury stock	**—**	**—**	**—**	**—**	**(90,229)**	**—**	**—**	**—**	**—**	**—**	**—**	**(90,229)**
Disposal of treasury stock	**—**	**—**	**155,387**	**—**	**79,810**	**—**	**—**	**—**	**—**	**—**	**—**	**235,197**
Increase by increase of consolidated subsidiaries	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**
Decrease by increase of consolidated subsidiaries	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**
Change of scope of the equity method	**—**	**—**	**—**	**(51)**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**(51)**
Change in treasury shares of the parent arising from transactions with non-controlling shareholders	**—**	**—**	**1**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**1**
Reversal of revaluation reserve for land	**—**	**—**	**—**	**(33,693)**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**(33,693)**
Other	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**	**—**
Net changes of items other than shareholders' equity	**—**	**—**	**—**	**—**	**—**	**(81,607)**	**(26,532)**	**33,693**	**(76,102)**	**(31,786)**	**25,699**	**(156,635)**
Balance as at December 31, 2018	**149,711**	**$ 1,266,338**	**$ 710,911**	**$ 1,781,230**	**$ (105,038)**	**$ 67,465**	**$ 7,535**	**$ 299,831**	**$ 63,681**	**$ (74,270)**	**$ 174,568**	**$ 4,192,251**

See notes to financial statements.

Consolidated Statements of Cash Flows

Showa Denko K.K. and Consolidated Subsidiaries

For the years ended December 31, 2018 and 2017

	Millions of yen		Thousands of U.S. dollars (Note 5)
	2018	2017	**2018**
Cash flows from operating activities			
Income before income taxes and non-controlling interests	**¥ 145,509**	¥ 50,531	**$ 1,310,890**
Adjustments for:			
Depreciation and amortization	**39,459**	38,565	**355,489**
Impairment loss	**22,573**	7,204	**203,362**
Amortization of negative goodwill	**(19)**	(12)	**(167)**
Increase (decrease) in allowance for doubtful accounts	**(2,134)**	2,757	**(19,224)**
Increase (decrease) in provision for business restructuring	**(704)**	2,106	**(6,339)**
Increase (decrease) in provision for loss on guarantees	**(2,640)**	2,640	**(23,783)**
Increase (decrease) in net defined benefit liability	**3,522**	(10,610)	**31,732**
Interest and dividends income	**(2,354)**	(1,893)	**(21,207)**
Interest expenses	**2,983**	3,100	**26,871**
Equity in (earnings) losses of unconsolidated subsidiaries and affiliates	**(1,253)**	7,689	**(11,290)**
Loss (gain) on sales and valuation of investment securities	**1,062**	(358)	**9,567**
Loss on retirement of non-current assets	**4,851**	5,310	**43,706**
Loss (gain) on sales of non-current assets	**141**	(880)	**1,274**
Decrease (increase) in notes and accounts receivable-trade	**(29,583)**	(23,253)	**(266,509)**
Decrease (increase) in inventories	**(40,469)**	(12,005)	**(364,587)**
Increase (decrease) in notes and accounts payable-trade	**20,397**	10,172	**183,757**
Other, net	**6,162**	(8,712)	**55,518**
Subtotal	**167,506**	72,351	**1,509,060**
Interest and dividends income received	**4,005**	4,410	**36,085**
Interest expenses paid	**(4,269)**	(2,828)	**(38,459)**
Income taxes (paid) refund	**(17,457)**	(6,698)	**(157,270)**
Net cash provided by (used in) operating activities	**149,785**	67,235	**1,349,415**
Cash flows from investing activities			
Payments into time deposits	**(172)**	(9,606)	**(1,547)**
Proceeds from withdrawal of time deposits	**210**	23,268	**1,890**
Purchase of property, plant and equipment	**(41,269)**	(38,872)	**(371,792)**
Proceeds from sales of property, plant and equipment	**392**	1,067	**3,528**
Purchase of investment securities	**(703)**	(1,646)	**(6,337)**
Proceeds from sales of investment securities	**3,975**	15,086	**35,811**
Purchase of investments in subsidiaries resulting in change in the scope of consolidation (Note 6)	**—**	(14,827)	**—**
Net decrease (increase) in short-term loans receivable	**197**	(754)	**1,776**
Payments of long-term loans receivable	**(2,950)**	(1,045)	**(26,575)**
Collection of long-term loans receivable	**672**	609	**6,058**
Other, net	**(9,690)**	(3,145)	**(87,300)**
Net cash provided by (used in) investing activities	**(49,338)**	(29,866)	**(444,487)**
Cash flows from financing activities			
Net increase (decrease) in short-term debt	**(9,507)**	19,921	**(85,647)**
Proceeds from long-term loans payable	**33,206**	22,328	**299,149**
Repayments of long-term loans payable	**(81,559)**	(44,813)	**(734,768)**
Redemption of bonds	**—**	(10,000)	**—**
Purchase of treasury stock	**(10,016)**	(12)	**(90,238)**
Proceeds from sales of treasury stock	**26,104**	0	**235,172**
Cash dividends paid	**(10,084)**	(4,277)	**(90,847)**
Cash dividends paid to non-controlling shareholders	**(2,365)**	(1,648)	**(21,302)**
Other, net	**(6,840)**	130	**(61,622)**
Net cash provided by (used in) financing activities	**(61,061)**	(18,370)	**(550,104)**
Effect of exchange rate changes on cash and cash equivalents	**(3,231)**	953	**(29,108)**
Net increase (decrease) in cash and cash equivalents	**36,154**	19,952	**325,716**
Cash and cash equivalents at the beginning of the year	**76,833**	56,186	**692,193**
Increase in cash and cash equivalents resulting from newly consolidated subsidiaries	**—**	696	**—**
Decrease in cash and cash equivalents resulting from change in scope of consolidation	**(153)**	—	**(1,377)**
Cash and cash equivalents at the end of the year (Note 6)	**¥ 112,835**	¥ 76,833	**$ 1,016,532**

See notes to financial statements.

Notes to Financial Statements

Showa Denko K.K. and Consolidated Subsidiaries

1. BASIS OF REPORTING AND FINANCIAL STATEMENTS

The accompanying consolidated financial statements have been prepared in accordance with accounting principles and practices generally accepted in Japan, which are different in certain respects as to the application and disclosure requirements from International Financial Reporting Standards, and restructured and translated into English from the consolidated financial statements which have been filed with the Kanto Local Finance Bureau as required by the Financial Instruments and Exchange Law of Japan.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

(a) Principles of Consolidation

The consolidated financial statements for the years ended December 31, 2018 and 2017 include the accounts of the Company and its 58 and 62, respectively, significant subsidiaries (collectively "the Companies").

For the purposes of the consolidated financial statements, all significant intercompany transactions, account balances and unrealized profits among the Companies are entirely eliminated and the portions thereof attributable to minority interests are credited or charged to minority interests.

Accounts of subsidiaries whose business year ends differ by more than three months from December 31 have been included using appropriate interim financial information.

In the initial consolidation, assets and liabilities of subsidiaries including those attributable to minority stockholders are recorded based on fair value in the accompanying consolidated financial statements.

Goodwill is amortized on a straight-line basis over a period during which the effect of such goodwill lasts but does not exceed 20 years from booking. In addition, negative goodwill arising from business combinations prior to April 1, 2010 is amortized on a straight-line basis over a period during which the effect of such negative goodwill lasts but does not exceed 20 years from booking.

(b) Investments in Unconsolidated Subsidiaries and Affiliates

The Company applied the equity method of accounting for investments in 2 unconsolidated subsidiaries in 2018 and 2 that of in 2017, and 9 affiliates in 2018 and 9 affiliates in 2017.

All underlying intercompany profits obtained from transactions among the Companies and unconsolidated subsidiaries and affiliates to which the equity method is applied are eliminated in the consolidated financial statements.

(c) Translation of Foreign Currency Accounts

All receivables and payables denominated in foreign currencies at the balance sheet date are translated into Japanese yen at the current exchange rates.

The resulting exchange gains or losses are credited or charged to income.

The financial statements of certain consolidated subsidiaries of foreign nationality are translated into Japanese yen at the year-end rate for assets and liabilities, at historical rates for the other balance sheet accounts exclusive of the current year's net income, and at the average annual rate for revenue and expense accounts and net income.

Translation adjustments resulting from the process of translating the financial statements of foreign subsidiaries into Japanese yen are accumulated and reported as a component of net assets on the consolidated balance sheets.

(d) Cash and Cash Equivalents

Cash and cash equivalents in the consolidated statements of cash flows are composed of cash on hand, bank deposits available for withdrawal on demand, and short-term investments with original maturities of three months or less and minor risk of value fluctuation.

(e) Securities

Debt securities that are intended to be held to maturity ("held-to-maturity debt securities") are stated at amortized cost on the balance sheets. Available-for-sale securities with available fair market values are stated at fair market values. Unrealized gains and unrealized losses on these available-for-sale securities are reported, net of applicable income taxes, as a separate component of the net assets.

Realized gains or losses on the sale of the available-for-sale securities are computed using primarily the moving-average cost.

Available-for-sale securities with no available fair market values are stated primarily at the moving-average cost.

(f) Allowance for Doubtful Accounts

To provide for losses from bad debts, the allowance is provided according to the actual rate of default for ordinary receivables and in view of the probability of recovery for specific doubtful receivables.

(g) Inventories

Inventories are stated at the lower of cost or market, using principally the gross-average cost method. The carrying value on the consolidated balance sheets is stated by the devaluation method based on declines in profitability.

(h) Property, Plant and Equipment

Property, plant and equipment is stated at cost, in principle.

Depreciation of property, plant and equipment is computed by the straight-line method.

(i) Intangible Assets

The Company and some of the consolidated subsidiaries principally apply the straight-line method over 5 years to amortize intangible assets.

(j) Leased Assets
Leased assets in finance lease transactions that do not transfer ownership to the lessee are depreciated using the straight-line method on the assumption that the useful life is equal to the lease term and the residual value is equal to zero. For leases with a residual value guarantee, the contracted residual value is considered to be the residual value for financial accounting purposes.

(k) Provision for Business Structure Improvement
The Company and some of the consolidated subsidiaries record the provision for business structure improvement on an accrual basis to provide for expenses and losses resulting from their restructuring programs.

(l) Provision for Bonuses
A provision for bonuses is provided at an amount estimated based on the bonus to be paid subsequent to the balance sheet date.

(m) Provision for Repairs
The Company and some of the consolidated subsidiaries provide a provision for repairs in an amount estimated to be necessary for the scheduled maintenance for certain production equipment.

(n) Provision for Stock Payments
To provide for the Company's share payment to its Directors and Corporate Officers, the provision is provided based on the Director Share Payment Regulations.

(o) Provision for Loss on Guarantees
To provide for loss on guarantees, the Company makes a provision in the expected amount of such losses based on the financial conditions of the guaranteed companies.

(p) Accounting Policy for Retirement Benefits
(1) Method of attributing expected benefits to periods
The attribution of expected benefits to periods up to the current consolidated fiscal year, upon calculating the retirement benefit obligations, is done on the benefit formula basis.

(2) Method of amortization of actuarial gain or loss and past service costs
The actuarial gain or loss is amortized starting from the year after such an actuarial loss is determined on a straight-line basis over certain periods (mainly 12 years) within the average remaining service periods.

Past service costs are amortized on a straight-line basis over certain periods (mainly 12 years) within the average remaining service periods.

(3) Application of a simplified method to small businesses
For the calculation of liabilities concerning retirement benefits and retirement benefit expenses, some consolidated subsidiaries have adopted a simplified method, which deems term-end amounts payable for voluntary retirement related to retirement benefits as retirement benefit obligations.

(q) Income Taxes
Income taxes consist of corporation, enterprise, and inhabitants taxes. The provision for income taxes is computed based on the pretax income of the Company and each of its consolidated subsidiaries with certain adjustments required for consolidation and tax purposes. The asset and liability approach is used to recognize deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the carrying amounts and the tax bases of assets and liabilities. (Valuation allowances are recorded to reduce deferred tax assets based on the assessment of the realizability of the tax benefits.)

Application of the Consolidated Taxation System
The Company and certain domestic subsidiaries adopt the consolidated taxation system.

(r) Derivative Financial Instruments and Hedge Accounting
The Company and certain subsidiaries state all derivative financial instruments at fair value and recognize changes in fair value as gains or losses unless the derivative financial instruments are used for hedging purposes.

If the derivative financial instruments meet certain hedging criteria, the Company and certain subsidiaries defer the recognition of gains or losses resulting from changes in the fair value of derivative financial instruments until the related gains or losses on hedged items are recognized.

However, when forward exchange contracts meet certain hedging criteria, the hedged items are stated by the forward exchange contracts rate. If interest rate swap contracts meet certain hedging criteria, the net amount to be paid or received under the interest rate swap contracts is added to or deducted from the interest on the assets or liabilities for which the interest rate swap contracts were executed.

Hedge accounting is not applied at some of the foreign subsidiaries.

(s) Reclassifications
Certain reclassifications have been made in the 2017 financial statements to conform to the presentation of 2018.

Notes to Financial Statements

Showa Denko K.K. and Consolidated Subsidiaries

3. ADDITIONAL INFORMATION

(a) Board Benefit Trust (BBT)

Based on the resolution at the 107th ordinary general meeting of shareholders held on March 30, 2016, the Company introduced a new stock compensation plan called the Board Benefit Trust (BBT) ("the Scheme") for Directors and Corporate Officers on May 11, 2016.

(1) Outline of the Transaction

In this Scheme, the shares of the Company are granted to its directors (excluding outside directors) and corporate officers pursuant to the Director Share Grant Regulations set forth by the Company.

The Company grants performance-linked points to its directors and corporate officers every year, and grants shares of the Company to them based on the number of points granted when they resign from the Company. Provided that, however, with regard to a certain portion of the points, an amount of money corresponding to the prevailing market price of the Company's shares will be paid to any director or corporate officer meeting the relevant requirements set forth in the Director Share Grant Regulations. The Company's shares that are granted to directors and corporate officers, including those to be granted in the future, shall be acquired by the trust using the entrusted funds and separately managed as trusted assets.

For accounting treatment concerning this trust agreement, the Company applied the gross method in which the assets and liabilities of the trust are recorded as assets and liabilities in the balance sheets by referring to the Practical Solution on Transactions of Delivering the Company's Own Stock to Employees etc. through Trusts (ASBJ Practical Issues Task Force [PITF] No. 30, issued on March 26, 2015).

(2) Residual Shares of the Company in the Trust

Residual shares of the Company in the trust have been recorded as treasury stock under net assets at the book value in the trust (excluding the amount of ancillary expenses). The book value and the number of such treasury stock were ¥327 million and 291,000 shares at the end of the fiscal year ended December 31, 2017, and ¥324 million (US$2,920 thousand) and 288,000 shares at the end of the fiscal year ended December 31, 2018, respectively.

4. NEW ACCOUNTING STANDARDS NOT YET APPLIED

"Accounting Standard for Revenue Recognition" (ASBJ Statement No. 29, March 30, 2018. Accounting Standards Board of Japan) and "Implementation Guidance on Accounting Standard for Revenue Recognition" (ASBJ Guidance No. 30, March 30, 2018. Accounting Standards Board of Japan)

(a) Overview

The International Accounting Standards Board (IASB) and the Financial Accounting Standards Board (FASB) jointly developed a comprehensive accounting standard for revenue recognition, and published "Revenue from Contracts with Customers" (IFRS 15 at IASB, Topic 606 at FASB) in May 2014. Given that IFRS 15 will be applied to fiscal years starting on or after January 1, 2018 and Topic 606 will be applied to fiscal years starting on or after December 15, 2017, the Accounting Standards Board of Japan developed a comprehensive accounting standard for revenue recognition and published them together with implementation guidance. The basic policy of the Accounting Standards Board of Japan in developing the accounting standard for revenue recognition is to establish an accounting standard with the incorporation of the basic principles of IFRS 15 as a starting point from the perspective of comparability between financial statements, which is one of the benefits of seeking consistency with IFRS 15, and to add alternative treatments if there are any matters in Japanese practices as far as the comparability is not hindered.

(b) Scheduled Date of Application

The standard will be applied from the beginning of the fiscal year 2022.

(c) Impact of Application

The impact of the application of the accounting standard and implementation guidance for revenue recognition on the consolidated financial statements is currently under review.

5. JAPANESE YEN AND TRANSLATION INTO U.S. DOLLARS

The Companies' accounting records are maintained in yen. Yen amounts included in the financial statements are rounded to the nearest one million unit. Therefore, the total and subtotal amounts presented in the financial statements may not equal the exact sum of the individual balances. The U.S. dollar amounts appearing in the accompanying financial statements and notes thereto represent the arithmetical results of translating yen into U.S. dollars at the rate of ¥111.00 to US$1.00, the approximate rate of exchange as at December 31, 2018. The inclusion of such U.S. dollar amounts is solely for the convenience of readers; it does not carry with it any implication that yen amounts have been or could be converted into U.S. dollars at that rate.

6. CASH FLOW STATEMENTS

(a) Cash and Cash Equivalents

Cash and deposits as of December 31, 2018 and 2017 on the consolidated balance sheets and cash equivalents as at December 31, 2018 and 2017 on the consolidated statements of cash flows were reconciled as follows:

	Millions of yen		Thousands of U.S. dollars
	2018	2017	**2018**
Cash and deposits	**¥ 113,186**	¥ 77,248	**$ 1,019,692**
Original maturities more than three months	**(351)**	(415)	**(3,160)**
Cash and cash equivalents	**¥ 112,835**	¥ 76,833	**$ 1,016,532**

(b) Assets and Liabilities of Newly Consolidated Subsidiaries through the Acquisition of Shares

Breakdown of the major assets and liabilities of the Company's newly consolidated subsidiary obtained through a share acquisition as of December 31, 2017

A breakdown of the major assets and liabilities at the time of the initial consolidation of SHOWA DENKO CARBON Holding GmbH and its 10 subsidiaries, obtained through a share acquisition, as well as the acquisition values and expenditures for the acquisition (net amount) were as follows:

	Millions of yen
Current assets	¥ 23,233
Non-current assets	39,219
Current liabilities	(27,514)
Non-current liabilities	(8,589)
Negative goodwill	(7,141)
Acquisition value of shares of the acquired company	¥ 19,208
Accounts payables that are included in the acquisition value	(3,015)
Cash and cash equivalents of the acquired company	(1,535)
Less: Expenditures for the acquisition	¥ 14,658

The figures in this statement reflect the amount after settlement of the provisional purchase price allocation for the business combination.

7. FINANCIAL INSTRUMENTS

(a) Overview

(1) Management policy relating to financial instruments

The Companies finance necessary long-term funds by bank loans and bond issues following the capital investment plans and finance short-term operating funds by bank loans and commercial paper. Temporary excess funds are invested exclusively in financial instruments which have fixed returns and low risk of falling below par values. The Companies use derivative transactions to hedge the following risks and do not enter into derivative transactions for speculative purposes.

(2) Types of financial instruments and related risks

Operating receivables, such as notes and accounts receivable, are exposed to credit risk. Foreign-currency-denominated accounts receivable incurred through exports are exposed to foreign currency fluctuation risk. However, the Companies hedge the risk by utilizing forward exchange contracts, currency options, and currency swaps based on internal rules that set out foreign currency risk management principles.

Marketable securities and investment securities mainly consist of the stocks of partner companies to maintain and strengthen their business relationships and are exposed to market fluctuation risk.

Operating payables, such as notes and accounts payable-trade and other, are due within one year. Foreign-currency-denominated accounts payable incurred through imports of raw materials are exposed to foreign currency fluctuation risk. The Companies hedge the risk by utilizing forward exchange contracts following internal rules that set out the foreign currency risk management principles. Short-term debt and commercial paper are mainly used to finance short-term operating funds, and long-term debts and bonds are mainly used to finance equipment funds. Since some of long-term debt is made up of variable interest rate loans, it is exposed to interest rate fluctuation risk. However, interest rate swaps are used for most loans to hedge the risk.

The Companies utilize derivative transactions, such as forward exchange contracts, currency options, and currency swaps, to hedge the foreign currency fluctuation risk of operating receivables and payables denominated in foreign currencies and financing transactions denominated in foreign currencies. Interest rate swaps are utilized to hedge the interest rate fluctuation risk, and aluminum forward contracts are utilized to hedge the market fluctuation risk.

(3) Risk management relating to financial instruments

(i) Credit risk management (risk of default by the counterparties)

The Company follows internal rules that set out accounts receivable management principles. The compliance department works with the sales division in each sector and monitors the customers' credit conditions periodically and reviews the sales policy checking the sales volume and balances. The Company takes measures to obtain information on and minimize the credit risk that may arise due to the deterioration in the financial condition of their customers. Consolidated subsidiaries monitor their customers' financial and credit conditions based on their internal rules.

The held-to-maturity debts are limited to only highly rated securities.

The Companies utilize derivative transactions only with creditworthy financial institutions and trading companies to minimize credit risk.

The maximum credit risk as of December 31, 2018 is disclosed as the balance sheets amount of financial instruments exposed to credit risk.

(ii) Market risk management (risk of fluctuations in foreign currency and interest rates)

For operating receivables and payables and loans denominated in foreign currencies, the Company and certain consolidated subsidiaries utilize forward exchange contracts, currency options, and currency swaps to hedge some of the foreign currency fluctuation risk, which is categorized by currency and maturity date. The Company and certain consolidated subsidiaries utilize currency swaps to hedge the interest rate fluctuation risk of loans.

For marketable securities and investment securities, the Companies regularly review the fair value and issuers' financial conditions, and review the Companies' portfolio on an ongoing basis, except for held-to-maturity debt securities, according to market conditions and the business relationships with counterparties.

The Company has internal management rules that set out the approval authorities and procedures of the derivative transactions.

The derivative transactions are carried out based on the appropriate approver set out in the internal rules. For currency-related derivative transactions, each division and the treasury department perform and manage transactions and report to the director in charge periodically. For interest-related derivative transactions, the treasury department performs and manages the transactions and reports to the director in charge periodically. For commodity-related derivative transactions, each division performs and manages the transactions, and reports to the director in charge periodically. Consolidated subsidiaries perform and manage derivative transactions based on their internal management standards.

(iii) Liquidity risk management (risk of default on payment due dates)

The Company manages liquidity risk by requiring the treasury department to prepare and update cash plans, based on the schedule for cash inflows and disbursements in each division. In addition, the Company signs commitment line contracts and makes other arrangements with financial institutions to secure the necessary liquidity.

Consolidated subsidiaries manage their liquidity risk through similar procedures.

(4) Supplemental explanation on fair value of financial instruments

As well as the values being based on market prices, the fair value of financial instruments includes values that are reasonably calculated in case market prices do not exist. As the calculation of those values uses certain assumptions, those values may vary in the case of different assumptions being applied. Also, for the contract amount and others regarding derivative transactions described in Note 9. DERIVATIVE FINANCIAL INSTRUMENTS, the contract amount itself does not indicate market risk related to derivative transactions.

(b) Fair Value of Financial Instruments

As at December 31, 2018 and 2017, book value, fair value, and difference were as follows.

The financial instruments whose fair value is extremely difficult to determine are not included below.

Year ended December 31, 2018	Millions of yen		
	Book value	Fair value	Difference
(1) Cash and deposits	**¥113,186**	**¥113,186**	**¥ —**
(2) Notes and accounts receivable-trade	**203,730**	**203,730**	**—**
(3) Investment securities	**46,613**	**46,613**	**—**
Total assets	**¥363,529**	**¥363,529**	**¥ —**
(1) Notes and accounts payable-trade	**¥139,420**	**¥139,420**	**¥ —**
(2) Short-term debt	**81,747**	**81,747**	**—**
(3) Current portion of long-term debt	**41,403**	**41,411**	**8**
(4) Accounts payable-other	**56,471**	**56,471**	**—**
(5) Long-term debt less current portion	**164,818**	**165,040**	**222**
Total liabilities	**¥483,859**	**¥484,089**	**¥ 230**
Derivative transactions*	**¥ 1,231**	**¥ 1,231**	**¥ —**

Year ended December 31, 2017	Millions of yen		
	Book value	Fair value	Difference
(1) Cash and deposits	¥ 77,248	¥ 77,248	¥ —
(2) Notes and accounts receivable-trade	176,021	176,021	—
(3) Investment securities	60,780	60,780	—
Total assets	¥314,049	¥314,049	¥ —
(1) Notes and accounts payable-trade	¥120,762	¥120,762	¥ —
(2) Short-term debt	91,699	91,699	—
(3) Current portion of long-term debt	57,432	57,499	67
(4) Accounts payable-other	67,082	67,082	—
(5) Long-term debt less current portion	197,594	197,260	(335)
Total liabilities	¥534,570	¥534,302	¥(268)
Derivative transactions*	¥ 5,354	¥ 5,354	¥ —

Year ended December 31, 2018	Thousands of U.S. dollars		
	Book value	Fair value	Difference
(1) Cash and deposits	**$1,019,692**	**$1,019,692**	**$ —**
(2) Notes and accounts receivable-trade	**1,835,409**	**1,835,409**	**—**
(3) Investment securities	**419,935**	**419,935**	**—**
Total assets	**$3,275,036**	**$3,275,036**	**$ —**
(1) Notes and accounts payable-trade	**$1,256,039**	**$1,256,039**	**$ —**
(2) Short-term debt	**736,456**	**736,456**	**—**
(3) Current portion of long-term debt	**373,000**	**373,073**	**72**
(4) Accounts payable-other	**508,751**	**508,751**	**—**
(5) Long-term debt less current portion	**1,484,847**	**1,486,846**	**1,998**
Total liabilities	**$4,359,094**	**$4,361,164**	**$2,071**
Derivative transactions*	**$ 11,090**	**$ 11,090**	**$ —**

*Derivative assets and liabilities are on a net basis.

Notes: 1. Valuation method for financial instruments and information on marketable securities and derivative transactions

Assets

Cash and deposits and Notes and accounts receivable-trade

The book value is deemed to approximate the fair value since these are scheduled to be settled in a short period of time.

Investment securities

The fair value of these securities is based on the price on stock exchanges. Refer to Note 8. SECURITIES regarding the securities categorized by holding purposes.

Liabilities

Notes and accounts payable-trade, Short-term debt, Commercial paper (included in the above Short-term debt), and Accounts payable-other

The book value is deemed to approximate the fair value since these are scheduled to be settled in a short period of time.

Current portion of long-term debt and Long-term debt (included in the above Long-term debt less current portion)

The fair value is measured as the net present value of the estimated cash flows by discounting the principal and interest value using the interest rate applied to the new loans. Parts of the long-term loans are variable rate loans, and they are subject to special treatment of interest rate swaps (refer to Note 9. DERIVATIVE FINANCIAL INSTRUMENTS); the fair value is measured as the net present value of the estimated cash flows by discounting the total amount of principal and interest processed as interest rate swaps using the interest rate applied to the new loans.

Current portion of bonds (included in the above Current portion of long-term debt) and Bonds (included in the above Long-term debt less current portion)

As for bonds with short maturities, the book value is deemed to approximate the fair value since these are scheduled to be settled in a short period of time. For others, fair value is based on the market prices.

Derivative transactions

Refer to Note 9. DERIVATIVE FINANCIAL INSTRUMENTS.

Notes: 2. Financial instruments for which fair value is extremely difficult to determine

	Millions of yen		Thousands of U.S. dollars
	2018	2017	**2018**
Non-listed equity securities	**¥25,273**	¥28,387	**$227,683**

These securities are not included in the above Investment securities, as it is extremely difficult to determine the fair value. Because there was no quoted market value, and estimating the future cash flows is deemed to be practically impossible.

Notes: 3. Redemption schedule for financial assets and securities with maturities

Year ended December 31, 2018	Millions of yen			
	Due in 1 year or less	Due after 1 year through 5 years	Due after 5 years through 10 years	Due after 10 years
Cash and deposits	**¥113,186**	**¥—**	**¥—**	**¥—**
Notes and accounts receivable-trade	**203,730**	**—**	**—**	**—**
Total	**¥316,916**	**¥—**	**¥—**	**¥—**

Year ended December 31, 2017	Millions of yen			
	Due in 1 year or less	Due after 1 year through 5 years	Due after 5 years through 10 years	Due after 10 years
Cash and deposits	¥ 77,248	¥—	¥—	¥—
Notes and accounts receivable-trade	176,021	—	—	—
Total	¥253,269	¥—	¥—	¥—

Year ended December 31, 2018	Thousands of U.S. dollars			
	Due in 1 year or less	Due after 1 year through 5 years	Due after 5 years through 10 years	Due after 10 years
Cash and deposits	**$1,019,692**	**$—**	**$—**	**$—**
Notes and accounts receivable-trade	**1,835,409**	**—**	**—**	**—**
Total	**$2,855,101**	**$—**	**$—**	**$—**

Notes: 4. Scheduled maturities of bonds and long-term debt after December 31, 2018 and 2017

Year ended December 31, 2018	Millions of yen					
	Due in 1 year or less	Due after 1 year through 2 years	Due after 2 years through 3 years	Due after 3 years through 4 years	Due after 4 years through 5 years	Due after 5 years
(1) Short-term debt	**¥ 81,747**	**¥ —**	**¥ —**	**¥ —**	**¥ —**	**¥ —**
(2) Long-term debt	**41,403**	**31,975**	**51,893**	**45,937**	**18,713**	**16,300**
Total	**¥123,150**	**¥31,975**	**¥51,893**	**¥45,937**	**¥18,713**	**¥16,300**

Year ended December 31, 2017	Millions of yen					
	Due in 1 year or less	Due after 1 year through 2 years	Due after 2 years through 3 years	Due after 3 years through 4 years	Due after 4 years through 5 years	Due after 5 years
(1) Short-term debt	¥ 91,699	¥ —	¥ —	¥ —	¥ —	¥ —
(2) Long-term debt	57,432	41,406	31,609	47,737	35,632	41,210
Total	¥149,132	¥ 41,406	¥ 31,609	¥ 47,737	¥ 35,632	¥ 41,210

Year ended December 31, 2018	Thousands of U.S. dollars					
	Due in 1 year or less	Due after 1 year through 2 years	Due after 2 years through 3 years	Due after 3 years through 4 years	Due after 4 years through 5 years	Due after 5 years
(1) Short-term debt	**$ 736,456**	**$ —**	**$ —**	**$ —**	**$ —**	**$ —**
(2) Long-term debt	**373,000**	**288,065**	**467,509**	**413,847**	**168,584**	**146,842**
Total	**$1,109,457**	**$288,065**	**$467,509**	**$413,847**	**$168,584**	**$146,842**

8. SECURITIES

(a) Available-for-sale Securities

Year ended December 31, 2018	Millions of yen		
	Book value	Acquisition cost	Difference
Available-for-sale securities whose book value exceeds their acquisition cost			
Equity securities	¥38,941	¥24,834	¥14,107
Other	181	159	21
Available-for-sale securities whose book value is less than their acquisition cost			
Equity securities	7,491	9,567	(2,076)
Total	¥46,613	¥34,561	¥12,052

Year ended December 31, 2017	Millions of yen		
	Book value	Acquisition cost	Difference
Available-for-sale securities whose book value exceeds their acquisition cost			
Equity securities	¥54,675	¥29,211	¥25,465
Available-for-sale securities whose book value is less than their acquisition cost			
Equity securities	6,104	6,431	(326)
Total	¥60,780	¥35,641	¥25,138

Year ended December 31, 2018	Thousands of U.S. dollars		
	Book value	Acquisition cost	Difference
Available-for-sale securities whose book value exceeds their acquisition cost			
Equity securities	$350,818	$223,730	$127,088
Other	1,627	1,433	194
Available-for-sale securities whose book value is less than their acquisition cost			
Equity securities	67,490	86,194	(18,704)
Total	$419,935	$311,357	$108,578

(b) Available-for-sale Securities Sold in the Years Ended December 31, 2018 and 2017:

Year ended December 31, 2018	Millions of yen		
	Sales	Gross gain	Gross loss
Equity securities	¥1,552	¥292	¥(2)
Total	¥1,552	¥292	¥(2)

Year ended December 31, 2017	Millions of yen		
	Sales	Gross gain	Gross loss
Equity securities	¥1,116	¥218	¥(3)
Total	¥1,116	¥218	¥(3)

Year ended December 31, 2018	Thousands of U.S. dollars		
	Sales	Gross gain	Gross loss
Equity securities	$13,980	$2,634	$(20)
Total	$13,980	$2,634	$(20)

(c) Impairment of securities

For the year ended December 31, 2017, there were no impairment losses. For the year ended December 31, 2018, the Companies recorded an impairment loss of ¥2,581 million (US$23,250 thousand) on available-for-sale securities with fair market values.

Securities are deemed to be "substantially declined" when their fair values have declined 30% or more. When their fair values have declined 50% or more, the impairment losses are recorded on those securities. When their fair values have declined between 30% and 50%, the impairment losses are recorded on those securities unless such values are considered to be recoverable on an individual basis.

9. DERIVATIVE FINANCIAL INSTRUMENTS

(a) Derivative Transactions to Which Hedge Accounting is Not Applied

	Millions of yen								Thousands of U.S. dollars			
	2018				2017				2018			
	Contract amount	Contract amount over 1 year	Fair value	Valuation gain (loss)	Contract amount	Contract amount over 1 year	Fair value	Valuation gain (loss)	Contract amount	Contract amount over 1 year	Fair value	Valuation gain (loss)
Currency related:												
Forward exchange contracts:												
Buying												
Euro	¥6,344	¥—	¥ 9	¥ 9	¥ —	¥—	¥ —	¥ —	$57,157	$—	$ 79	$ 79
Selling												
U.S. Dollar	¥ 20	¥—	¥ 0	¥ 0	¥ 625	¥—	¥ (2)	¥ (2)	$ 181	$—	$ 3	$ 3
Euro	401	—	¥13	13	5,613	—	(113)	(113)	3,609	—	118	118

Note: Fair value calculation method:

Fair values of forward exchange contracts are stated by the forward exchange rates. Fair values of currency and interest rate swaps are measured at the quoted price obtained from the financial institutions.

(b) Derivative Transactions to Which Hedge Accounting is Applied

	Millions of yen						Thousands of U.S. dollars		
	2018			2017			**2018**		
	Contract amount	Contract amount over 1 year	Fair value	Contract amount	Contract amount over 1 year	Fair value	Contract amount	Contract amount over 1 year	Fair value
(1) Currency related:									
Principle method									
Forward exchange contracts:									
Buying									
U.S. Dollar	**¥11,309**	**¥ 766**	**¥ 0**	¥ 7,861	¥ 1,985	¥ 118	**$101,881**	**$ 6,905**	**$ 2**
Euro	**37**	**—**	**(0)**	29	—	0	**335**	**—**	**(4)**
Selling									
U.S. Dollar	**6,736**	**—**	**106**	9,108	—	29	**60,683**	**—**	**955**
Euro	**—**	**—**	**—**	306	—	(3)	**—**	**—**	**—**
Allocation method									
Forward exchange contracts:									
Buying									
U.S. Dollar	**¥ 1,971**	**¥ —**	**¥ —**	¥ 3,212	¥ —	¥ —	**$ 17,753**	**$ —**	**$ —**
Euro	**44**	**—**	**—**	53	—	—	**398**	**—**	**—**
Canadian Dollar	**—**	**—**	**—**	3	—	—	**—**	**—**	**—**
Selling									
U.S. Dollar	**7,390**	**—**	**—**	15,618	—	—	**66,575**	**—**	**—**
Euro	**1,845**	**—**	**—**	814	—	—	**16,620**	**—**	**—**
Yuan Renminbi	**1,041**	**—**	**—**	640	—	—	**9,375**	**—**	**—**
Currency swaps:									
Receipt U.S. Dollar									
Payment Yen	**¥ 7,900**	**¥2,900**	**¥ —**	¥10,400	¥ 6,900	¥ —	**$ 71,171**	**$26,126**	**$ —**
(2) Interest rate related:									
Special method									
Interest rate swaps:									
Receipt-variable rate/Payment-fixed rate	**¥ 7,168**	**¥2,836**	**¥ —**	¥25,579	¥ 7,181	¥ —	**$ 64,574**	**$25,551**	**$ —**
(3) Commodity related:									
Principle method									
Aluminum forward contracts:									
Buying	**¥18,235**	**¥8,790**	**¥1,070**	¥21,760	¥11,367	¥5,479	**$164,283**	**$79,192**	**$9,639**
Selling	**1,025**	**—**	**34**	2,093	—	(154)	**9,238**	**—**	**302**

Notes: 1. The main items hedged by forward exchange contracts are accounts payable for buying, accounts receivable for selling and long-term debt by interest rate swaps. The main items hedged by aluminum forward transactions are aluminum metal transactions.

Notes: 2. Fair value calculation method:
The fair values of forward exchange contracts are stated by the forward exchange rates. The fair values of currency swaps are measured at the quoted price obtained from the financial institutions. The fair values of aluminum forward transactions are stated by forward quotations of the London Metal Exchange.

Notes: 3. The fair values of forward exchange contracts and currency swaps that meet the allocation method criteria are reflected in the fair values of accounts receivable, accounts payable and debts of their hedged items.

Notes: 4. The fair values of interest rate swaps that meet the special treatment criteria are reflected in the fair values of long-term debt of their hedged item.

10. EFFECT OF YEAR-END DATE ON FINANCIAL STATEMENTS

The year-end date of 2018, namely, December 31, 2018, was a bank holiday. Although notes receivable and payable maturing on this date were accordingly settled on January 4, 2019, the Companies accounted for those notes in their financial statements as if they had been settled on the maturity date.

Notes outstanding as at December 31, 2018 and 2017 dealt with in the above-mentioned manner were as follows:

	Millions of yen		Thousands of U.S. dollars
	2018	2017	**2018**
Notes receivable	**¥1,317**	¥938	**$11,868**
Notes payable	**901**	891	**8,116**

11. SHORT-TERM DEBT AND LONG-TERM DEBT

As at December 31, 2018 and 2017, the short-term debt of the Companies consisted of the following:

	Millions of yen		Thousands of U.S. dollars
	2018	2017	**2018**
Bank loans at the average interest rate of 0.88%	**¥61,747**	¥86,699	**$556,276**
Commercial paper	**20,000**	5,000	**180,180**
Total	**¥81,747**	¥91,699	**$736,456**

As at December 31, 2018 and 2017, the long-term debt of the Companies consisted of the following:

	Millions of yen		Thousands of U.S. dollars
	2018	2017	**2018**
0.63% bonds due 2021	**¥ 15,000**	¥ 15,000	**$ 135,135**
0.20% bonds due 2021	**10,000**	10,000	**90,090**
0.734% bonds due 2022	**10,000**	10,000	**90,090**
0.50% bonds due 2026	**7,000**	7,000	**63,063**
Loans principally from banks and insurance companies due 2019 to 2027 at the average interest rate of 0.77%	**164,221**	213,026	**1,479,468**
	206,221	255,026	**1,857,847**
Less: current portion	**(41,403)**	(57,432)	**(373,000)**
Total	**¥164,818**	¥197,594	**$1,484,847**

The aggregate annual maturities of the non-current portion of long-term debt were as follows:

Years ending December 31	Millions of yen	Thousands of U.S. dollars
2020	**¥ 31,975**	**$ 288,065**
2021	**51,893**	**467,509**
2022	**45,937**	**413,847**
2023	**18,713**	**168,584**
2024 and thereafter	**16,300**	**146,842**
Total	**¥164,818**	**$1,484,847**

As at December 31, 2018 and 2017, the assets pledged as collateral for long-term debt were as follows:

	Millions of yen		Thousands of U.S. dollars
	2018	2017	**2018**
Assets pledged as collateral			
Investment securities	**¥ 361**	¥ 422	**$ 3,252**
Property, plant and equipment, less accumulated depreciation	**144,153**	144,945	**1,298,678**
Total	**¥144,514**	¥145,367	**$1,301,930**
Secured short-term debt and long-term debt			
Short-term debt	**¥ 170**	¥ —	**$ 1,530**
Long-term debt	**240**	320	**2,162**
Notes and accounts payable-trade	**163**	202	**1,468**
Total	**¥ 573**	¥ 522	**$ 5,160**

12. RETIREMENT BENEFITS

(a) Defined-benefit pension plan, including the plans using the simplified method

(1) Reconciliation of opening and closing balance of retirement benefit obligation for the years ended December 31, 2018 and 2017 was as follows:

	Millions of yen		Thousands of U.S. dollars
	2018	2017	**2018**
Balance of retirement benefit obligation at the beginning of year	**¥101,154**	¥ 99,169	**$911,294**
Service cost	**2,606**	2,928	**23,474**
Interest cost	**519**	219	**4,675**
Actuarial gain and loss	**1,428**	(2,418)	**12,865**
Retirement benefits paid	**(4,758)**	(6,979)	**(42,864)**
Past service cost	**72**	24	**646**
Increase from changes in scope of consolidation	**—**	8,943	**—**
Other	**(696)**	(732)	**(6,272)**
Balance of the retirement benefit obligation at the end of year	**¥100,324**	¥101,154	**$903,823**

(2) Reconciliation of opening and closing balance of plan assets for the years ended December 31, 2018 and 2017 was as follows:

	Millions of yen		Thousands of U.S. dollars
	2018	2017	**2018**
Balance of plan assets at the beginning of year	**¥82,419**	¥77,613	**$742,511**
Expected return on plan assets	**1,577**	1,583	**14,209**
Actuarial gain and loss	**(5,463)**	4,654	**(49,212)**
Contribution from employer	**4,554**	4,519	**41,030**
Retirement benefits paid	**(4,294)**	(7,270)	**(38,689)**
Increase from changes in scope of consolidation	**—**	1,372	**—**
Other	**(239)**	(52)	**(2,153)**
Balance of plan assets at the end of year	**¥78,554**	¥82,419	**$707,696**

(3) Reconciliation of the ending balance of retirement benefit obligations and plan assets, and the net defined benefit liability and the net defined benefit asset for the years ended December 31, 2018 and 2017 was as follows:

	Millions of yen		Thousands of U.S. dollars
	2018	2017	**2018**
Funded retirement benefit obligations	**¥ 97,178**	¥ 98,015	**$ 875,479**
Plan assets	**(78,554)**	(82,419)	**(707,697)**
	18,624	15,596	**167,781**
Unfunded retirement benefit obligations	**3,146**	3,139	**28,341**
Net amount of relevant liabilities and assets on the consolidated balance sheets	**21,770**	18,734	**196,122**
Net defined benefit liability	**22,018**	18,966	**198,365**
Net defined benefit asset	**(249)**	(232)	**(2,243)**
Net amount of relevant liabilities and assets on the consolidated balance sheets	**21,770**	18,734	**196,122**

(4) Retirement benefit expenses and the components of the amounts thereof for the years ended December 31, 2018 and 2017 were as follows:

	Millions of yen		Thousands of U.S. dollars
	2018	2017	**2018**
Service cost	**¥ 2,606**	¥ 2,928	**$ 23,474**
Interest cost	**519**	219	**4,675**
Expected return on plan assets	**(1,577)**	(1,583)	**(14,209)**
Amortization of actuarial gain and loss	**1,641**	2,019	**14,787**
Amortization of past service cost	**78**	26	**702**
Retirement benefit expenses related to the defined-benefit pension plan	**¥ 3,267**	¥ 3,609	**$ 29,429**

(5) Remeasurements of defined benefit plans

The components of items (before tax) reported under remeasurements of defined benefit plans for the years ended December 31, 2018 and 2017 were as follows:

	Millions of yen		Thousands of U.S. dollars
	2018	2017	**2018**
Past service cost	**¥ (0)**	¥ (1)	**$ (2)**
Actuarial gain and loss	**5,114**	(9,071)	**46,074**
Total	**¥5,114**	¥(9,072)	**$46,072**

(6) Accumulated remeasurements of defined benefit plans

The components of items (before tax) reported under accumulated remeasurements of defined benefit plans for the years ended December 31, 2018 and 2017 were as follows:

	Millions of yen		Thousands of U.S. dollars
	2018	2017	**2018**
Unrecognized past service cost	**¥ (20)**	¥ (19)	**$ (177)**
Unrecognized actuarial gain and loss	**12,011**	6,895	**108,204**
Total	**¥11,991**	¥6,876	**$108,027**

(7) Matters regarding plan assets

(i) Major content of the plan assets

The percentages of major asset types that account for the total plan assets as of December 31, 2018 and 2017 were as follows:

	Ratio	
	2018	2017
Bonds	**42 %**	30 %
Stocks	**35**	47
General accounts of life insurance company	**22**	21
Cash and deposits	**1**	2
Total	**100 %**	100 %

(ii) Method for setting the long-term rate of expected return on plan assets

To determine the long-term rate of expected return on plan assets, the current and anticipated long-term yield rates of various assets that constitute the plan assets as well as the current and projected distribution of plan assets, have been taken into account.

(8) Matters regarding the assumptions for actuarial calculations

Key assumptions for actuarial calculations as of December 31, 2018 and 2017 were as follows:

	Ratio	
	2018	2017
Discount rate	**Mainly 0.3%**	Mainly 0.4%
Long-term rate of expected return on plan assets	**Mainly 1.8%**	Mainly 2.0%

(b) Defined contribution pension plan

The amounts required to be contributed by consolidated subsidiaries for the years ended December 31, 2018 and 2017 were ¥657 million (US$5,917 thousand), and ¥443 million, respectively.

13. INCOME TAXES

(a) As at December 31, 2018 and 2017, significant components of deferred tax assets and liabilities were as follows:

	Millions of yen		Thousands of U.S. dollars
	2018	2017	**2018**
Deferred tax assets:			
Impairment loss	**¥ 17,252**	¥ 10,616	**$ 155,420**
Write-down of marketable and investment securities	**16,657**	15,218	**150,059**
Tax loss carryforwards	**5,681**	10,643	**51,179**
Net defined benefit liability	**5,423**	4,360	**48,852**
Depreciation and amortization	**4,869**	3,789	**43,867**
Allowance for doubtful accounts	**3,924**	7,031	**35,353**
Loss on valuation of inventories	**2,200**	592	**19,820**
Provision for bonuses	**791**	693	**7,128**
Unrealized earnings from the sale of fixed assets	**543**	629	**4,890**
Undetermined accrued liabilities	**473**	530	**4,258**
Provision for repairs	**356**	1,307	**3,203**
Deferred gains or losses on hedges	**355**	1,676	**3,199**
Write-down of golf club memberships	**243**	342	**2,193**
Other	**5,359**	5,946	**48,283**
Subtotal of deferred tax assets	**64,125**	63,373	**577,706**
Valuation allowance	**(45,374)**	(46,471)	**(408,774)**
Total deferred tax assets	**18,751**	16,902	**168,932**
Deferred tax liabilities:			
Special depreciation reserve	**(5,058)**	(4,168)	**(45,563)**
Amount of revaluation from the book value	**(4,233)**	(4,991)	**(38,136)**
Valuation difference on available-for-sale securities	**(3,678)**	(7,675)	**(33,131)**
Foreign subsidiaries' undistributed retained earnings	**(3,436)**	(1,981)	**(30,955)**
Deferred gains or losses on hedges	**(371)**	(1,692)	**(3,344)**
Reserve for advanced depreciation of fixed assets	**(231)**	(207)	**(2,085)**
Other	**(3,197)**	(1,255)	**(28,804)**
Total deferred tax liabilities	**(20,204)**	(21,969)	**(182,019)**
Net deferred tax assets (liabilities)	**¥ (1,453)**	¥ (5,067)	**$ (13,086)**

(b) The net deferred tax assets as at December 31, 2018 and 2017 were included in the consolidated balance sheets as follows:

	Millions of yen		Thousands of U.S. dollars
	2018	2017	**2018**
Deferred tax assets — current	**¥ 3,747**	¥ 6,898	**$ 33,760**
Deferred tax assets — non-current	**1,590**	1,080	**14,320**
Other current liabilities	**(106)**	(165)	**(956)**
Deferred tax liabilities — non-current	**(6,683)**	(12,880)	**(60,211)**

(c) Significant items in the reconciliation the statutory tax rate with the effective as at December 31, 2018 and 2017 were as follows:

	2018	2017
Statutory tax rate	**30.9 %**	30.9 %
Differences of statutory tax rate in subsidiaries	**(5.7)**	(3.9)
Consolidated adjustment for loss on valuation of investments in capital of subsidiaries and associates, etc.	**(1.6)**	(1.1)
Effect on the reexamination of recoverability	**(1.2)**	(1.1)
Unrealized earnings from the sale of fixed assets	**(0.8)**	0.1
Deferred taxes on undistributed earnings of foreign subsidiaries	**0.7**	0.6
Other	**(2.5)**	(4.0)
Effective tax rate	**19.8 %**	21.4 %

14. IMPAIRMENT LOSS

As at December 31, 2018, major impairment losses on fixed assets were as follows:

Location	Major use	Asset category	Millions of yen	Thousands of U.S. dollars
Oyama City, Tochigi Prefecture, etc.	Production facilities	Machinery and equipment, etc.	**¥ 8,845**	**$ 79,689**
Omachi City, Nagano Prefecture, etc.	Production facilities	Machinery and equipment, etc.	**4,641**	**41,807**
Hikone City, Shiga Prefecture	Idle assets and land for rent	Land, etc.	**5,967**	**53,754**
Chiba City, Chiba Prefecture	Idle assets	Land, etc.	**1,864**	**16,792**
Other			**1,257**	**11,321**
Total			**¥22,573**	**$203,362**

15. CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)

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

	Millions of yen	Thousands of U.S. dollars
Valuation difference on available-for-sale securities		
Increase during the year	**¥(12,897)**	**$(116,192)**
Reclassification adjustments	**(227)**	**(2,043)**
Amount before income tax effect	**(13,124)**	**(118,235)**
Income tax effect	**3,997**	**36,007**
Total	**¥ (9,127)**	**$ (82,228)**
Deferred gains or losses on hedges		
Increase during the year	**¥ (2,785)**	**$ (25,089)**
Reclassification adjustments	**(115)**	**(1,034)**
Adjustments of acquisition cost of assets	**(1,360)**	**(12,255)**
Amount before income tax effect	**(4,260)**	**(38,379)**
Income tax effect	**1,318**	**11,871**
Total	**¥ (2,942)**	**$ (26,508)**
Foreign currency translation adjustments		
Increase during the year	**¥ (7,227)**	**$ (65,107)**
Reclassification adjustments	**(440)**	**(3,963)**
Amount before income tax effect	**(7,667)**	**(69,070)**
Income tax effect	**—**	**—**
Total	**¥ (7,667)**	**$ (69,070)**
Remeasurements of defined benefit plans, net of tax		
Increase during the year	**¥ (6,833)**	**$ (61,561)**
Reclassification adjustments	**1,719**	**15,486**
Amount before income tax effect	**(5,114)**	**(46,075)**
Income tax effect	**1,559**	**14,041**
Total	**¥ (3,556)**	**$ (32,034)**
Share of other comprehensive income of unconsolidated subsidiaries and affiliates accounted for using the equity method		
Increase during the year	**¥ (83)**	**$ (747)**
Reclassification adjustments	**(1,322)**	**(11,908)**
Total	**¥ (1,405)**	**$ (12,655)**
Total other comprehensive income	**¥(24,697)**	**$(222,495)**

16. LEASES

(a) Finance Leases as a Lessee

Finance lease transactions other than those involving transfer of ownership to the lessee

(1) Type of leased assets

a) Tangible fixed assets: Principally welfare facilities (buildings and structures)

b) Intangible fixed assets: Software

(2) Method of depreciation

The depreciation method of leased assets is described in Note 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (j) Leased Assets.

(b) Operating Leases as a Lessee

As at December 31, 2018 and 2017, assets leased under non-capitalized operating leases were as follows:

Future minimum lease payments for the remaining lease periods:

	Millions of yen		Thousands of U.S. dollars
	2018	2017	**2018**
Due within 1 year	**¥ 678**	¥ 366	**$ 6,111**
Due over 1 year	**3,288**	2,147	**29,625**
Total	**¥3,967**	¥2,514	**$35,735**

(c) Operating Leases as a Lessor

As at December 31, 2018 and 2017, non-cancellable operating lease receivables for the remaining lease periods were as follows:

Future minimum lease receivables for the remaining lease periods:

	Millions of yen		Thousands of U.S. dollars
	2018	2017	**2018**
Due within 1 year	**¥ 80**	¥ 80	**$ 717**
Due over 1 year	**435**	514	**3,917**
Total	**¥514**	¥594	**$4,634**

17. CONTINGENT LIABILITIES

As at December 31, 2018 and 2017, the Companies were guarantors for the borrowings below. The guarantees were principally for unconsolidated subsidiaries, affiliates and others.

	Millions of yen		Thousands of U.S. dollars
	2018	2017	**2018**
Guarantees	**¥2,137**	¥1,509	**$19,250**

As the amounts include joint and several guarantors' portions as well as the Companies', the actual amounts that the Companies were contingently liable to pay were smaller than the above.

18. NET ASSETS

The Corporation Law of Japan (the "Law") provides that the entire amount paid for new shares may be credited to the stated capital, with the provision that, by resolution of the Board of Directors, up to one-half of such amount paid for new shares may be credited to additional paid-in capital, which is included in capital surplus.

The Law provides that an amount equal to 10% of cash appropriations of retained earnings shall be set aside as additional paid-in capital or a legal earnings reserve until the total of such reserve and additional paid-in capital equals 25% of the stated capital. Additional paid-in capital and the legal earnings reserve may be used to eliminate or reduce a deficit, if any, or be capitalized by resolution at the Ordinary General Meeting of Shareholders. All additional paid-in capital and the legal earnings reserve may be transferred to other capital surplus and retained earnings, respectively, which are potentially available for dividends. Additional paid-in capital and the legal earnings reserve are included in capital surplus and retained earnings, respectively.

The Law does not have a definition about the classification of paid-in capital between common stock and preferred stock. Accordingly, the Company states its capital in the total amount paid by issuing common stock and preferred stock.

The maximum amount that the Company can distribute as dividends is calculated based on the unconsolidated financial statements of the Company in accordance with Japanese laws and regulations.

19. REVALUATION RESERVE FOR LAND

The Company and some of its consolidated subsidiaries revalued the land they own for business in accordance with the Law concerning the Revaluation of Land. The difference between the revalued amount and the book value, after the deduction of applicable tax, is stated as a land revaluation reserve. The revaluation was conducted using methods stipulated in the ordinance for enforcement of the law, specifically, the method in Item 4 of Article 2 (Reasonable Adjustment of the Appraised Value Relating to Land Price Tax), and the method in Item 5 of Article 2 (Estimation by Experts). The excess of the carrying amount of the revalued land over the market value as at December 31, 2018 was ¥63,724 million (US$574,094 thousand).

20. SELLING, GENERAL AND ADMINISTRATIVE EXPENSES

Selling, general and administrative expenses for the years ended December 31, 2018 and 2017 were summarized as follows:

	Millions of yen		Thousands of U.S. dollars
	2018	2017	**2018**
Freight	**¥ 27,986**	¥26,612	**$252,126**
Employees' compensation	**24,076**	21,582	**216,899**
Other	**55,068**	51,597	**496,111**
Total	**¥107,130**	¥99,790	**$965,135**

Research and development expenses included in selling, general and administrative expenses for the years ended December 31, 2018 and 2017 were ¥19,623 million (US$176,784 thousand) and ¥18,419 million, respectively.

21. RESEARCH AND DEVELOPMENT

Research and development costs included in manufacturing costs, selling, general and administrative expenses for the years ended December 31, 2018 and 2017 were ¥19,735 million (US$177,789 thousand) and ¥18,539 million, respectively.

22. LOSSES FOR AFFILIATES

Year ended December 31, 2018

The information as of December 31, 2018 was not disclosed because there were no significant losses for affiliates.

Year ended December 31, 2017

The Company discussed how to manage the alumina plant of PT. Indonesia Chemical Alumina (ICA)—in which the Company held a 20% share—in the future with ICA's parent company, PT ANTAM Tbk. However, the Company judged at its Board of Directors' meeting held on July 24, 2017, that it would be difficult for the two parties to reach an agreement on terms and conditions to restructure ICA.

As a result, a loss on investment to companies under the application of the equity method of ¥9,948 million (US$88,035 thousand) in connection with the impairment loss of ICA's alumina plant was recorded as the other expenses for the fiscal year ended December 31, 2017.

In addition, in light of ICA's current financial conditions as a result of the above, the Company recorded losses including ¥2,648 million (US$23,433 thousand) in the provision of allowance for doubtful accounts for the loans to ICA and ¥2,640 million (US$23,362 thousand) in the provision for loss on guarantees for guarantee liabilities for ICA's borrowings.

23. BUSINESS COMBINATION

Finalization of temporary accounting for a business combination

Temporary accounting was made for the business combination between the Company and SGL GE Holding GmbH carried out on October 2, 2017, for the previous fiscal year, the first quarter, and the second quarter. The temporary accounting was finalized.

Due to the finalization of the temporary accounting, a material review has been reflected in the initial allotment of the acquisition cost. Mainly because of a decrease in deferred tax liability related to the valuation of investment securities, the gain on negative goodwill that was temporarily calculated during the previous fiscal year (from January 1, 2017 through December 31, 2017) increased by ¥4,026 million to ¥7,141 million, and net income attributable to owners of the parent increased by ¥3,934 million to ¥37,404 million.

24. SEGMENT INFORMATION

(a) Information about sales, operating income, assets, and other items by reportable segment

Year ended December 31, 2018	Millions of yen								
	Petrochemicals	Chemicals	Electronics	Inorganics	Aluminum	Others	Total	Adjustments	Consolidated
Sales									
Outside customers	¥258,035	¥139,041	¥104,351	¥257,525	¥ 99,078	¥134,106	¥ 992,136	¥ —	¥ 992,136
Inter-segment	10,844	17,499	1,472	8,624	9,176	9,307	56,922	(56,922)	—
Total	268,879	156,541	105,823	266,149	108,254	143,413	1,049,058	(56,922)	992,136
Operating income (loss)	¥ 20,333	¥ 17,393	¥ 12,397	¥132,445	¥ 4,942	¥ 2,893	¥ 190,403	¥(10,400)	¥ 180,003
Assets	¥156,169	¥218,256	¥128,956	¥300,197	¥150,117	¥164,695	¥1,118,389	¥(42,643)	¥1,075,746
Depreciation and amortization	5,046	8,806	9,195	7,967	5,655	1,549	38,217	1,242	39,459
Amortization of goodwill	—	(260)	12	8	222	(1)	(19)	—	(19)
Investments in unconsolidated subsidiaries and affiliates	10,718	3,421	—	1,824	—	388	16,352	—	16,352
Increase in property, plant and equipment and intangible assets	5,051	8,048	8,397	8,127	5,521	4,092	39,237	2,491	41,727

Notes: 1. Adjustments are as follows:

(1) Elimination of intersegment transactions of ¥(83) million (US$(750) thousand) and total corporate expenses of ¥(10,317) million (US$(92,942) thousand) that were not allocated to any reportable segment were included in "Adjustments" for "Operating income" of ¥(10,400) million (US$(93,692) thousand). The total corporate expenses principally consist of the total corporate common research expenses which are not attributable to any reportable segment.

(2) Elimination of intersegment receivables and payables and assets of ¥(67,798) million (US$(610,794) thousand) and total corporate assets of ¥25,155 million (US$226,619 thousand) that were not allocated to any reportable segment were included in "Adjustments" for "Assets" of ¥(42,643) million (US$(384,175) thousand). The total corporate assets principally consist of surplus funds of the Companies under management (in the form of cash and deposits), deferred tax assets and assets related to the total corporate common research and development expenses.

Notes: 2. Amortization of negative goodwill was included in "Amortization of goodwill."

Year ended December 31, 2017	Millions of yen								
	Petrochemicals	Chemicals	Electronics	Inorganics	Aluminum	Others	Total	Adjustments	Consolidated
Sales									
Outside customers	¥240,685	¥131,540	¥120,593	¥ 65,199	¥ 96,827	¥125,544	¥ 780,387	¥ —	¥ 780,387
Inter-segment	10,443	17,218	2,471	8,243	8,612	8,080	55,067	(55,067)	—
Total	251,128	148,758	123,064	73,442	105,439	133,624	835,454	(55,067)	780,387
Operating income (loss)	¥ 33,357	¥ 16,474	¥ 21,925	¥ 6,979	¥ 6,697	¥ 633	¥ 86,065	¥ (8,357)	¥ 77,708
Assets	¥146,608	¥215,641	¥144,939	¥204,546	¥169,561	¥166,540	¥1,047,835	¥(20,836)	¥1,026,999
Depreciation and amortization	6,850	8,460	9,598	5,574	5,356	1,614	37,452	1,113	38,565
Amortization of goodwill	—	(260)	12	8	228	(0)	(12)	—	(12)
Investments in unconsolidated subsidiaries and affiliates	11,148	2,301	—	1,789	—	340	15,578	—	15,578
Increase in property, plant and equipment and intangible assets	2,836	9,627	11,242	8,289	8,022	1,154	41,170	617	41,787

Notes: 1. Adjustments are as follows:

(1) Elimination of intersegment transactions of ¥88 million (US$783 thousand) and total corporate expenses of ¥(8,445) million (US$(74,735) thousand) that were not allocated to any reportable segment were included in "Adjustments" for "Operating income" of ¥(8,357) million (US$(73,954) thousand). The total corporate expenses principally consist of total corporate common research expenses that are not attributable to any reportable segment.

(2) Elimination of intersegment receivables and payables and assets of ¥(51,071) million (US$(451,956) thousand) and total corporate assets of ¥30,235 million (US$267,566 thousand) that were not allocated to any reportable segment were included in "Adjustments" for "Assets" of ¥(20,836) million (US$(184,390) thousand). The total corporate assets principally consist of surplus funds of the Companies under management (in the form of cash and deposits), deferred tax assets and assets related to the total corporate common research and development expenses.

Notes: 2. Amortization of negative goodwill was included in "Amortization of goodwill."

Year ended December 31, 2018	Thousands of U.S. dollars								
	Petrochemicals	Chemicals	Electronics	Inorganics	Aluminum	Others	Total	Adjustments	Consolidated
Sales									
Outside customers	**$2,324,641**	**$1,252,623**	**$ 940,097**	**$2,320,045**	**$ 892,593**	**$1,208,162**	**$ 8,938,162**	**$ —**	**$8,938,162**
Inter-segment	**97,694**	**157,652**	**13,261**	**77,694**	**82,667**	**83,845**	**512,812**	**(512,812)**	**—**
Total	**2,422,335**	**1,410,275**	**953,359**	**2,397,739**	**975,260**	**1,292,008**	**9,450,975**	**(512,812)**	**8,938,162**
Operating income (loss)	**$ 183,178**	**$ 156,696**	**$ 111,686**	**$1,193,195**	**$ 44,520**	**$ 26,066**	**$ 1,715,341**	**$ (93,692)**	**$1,621,649**
Assets	**$1,406,926**	**$1,966,266**	**$1,161,768**	**$2,704,479**	**$1,352,403**	**$1,483,739**	**$10,075,581**	**$(384,175)**	**$9,691,405**
Depreciation and amortization	**45,456**	**79,336**	**82,835**	**71,777**	**50,943**	**13,951**	**344,298**	**11,191**	**355,489**
Amortization of goodwill	**—**	**(2,344)**	**106**	**76**	**2,004**	**(9)**	**(167)**	**—**	**(167)**
Investments in unconsolidated subsidiaries and affiliates	**96,561**	**30,824**	**—**	**16,435**	**—**	**3,495**	**147,315**	**—**	**147,315**
Increase in property, plant and equipment and intangible assets	**45,508**	**72,506**	**75,645**	**73,218**	**49,737**	**36,869**	**353,483**	**22,438**	**375,921**

(b) Information about geographical areas

Year ended December 31, 2018	Millions of yen			
	Japan	Asia	Others	Total
Sales	**¥551,333**	**¥239,885**	**¥200,919**	**¥992,136**

Year ended December 31, 2017	Millions of yen			
	Japan	Asia	Others	Total
Sales	¥504,162	¥230,644	¥45,580	¥780,387

Year ended December 31, 2018	Thousands of U.S. dollars			
	Japan	Asia	Others	Total
Sales	**$4,966,960**	**$2,161,125**	**$1,810,077**	**$8,938,162**

Year ended December 31, 2018	Millions of yen		
	Japan	Others	Total
Property, plant and equipment	**¥379,577**	**¥98,829**	**¥478,406**

Year ended December 31, 2017	Millions of yen		
	Japan	Others	Total
Property, plant and equipment	¥402,889	¥103,045	¥505,933

Year ended December 31, 2018	Thousands of U.S. dollars		
	Japan	Others	Total
Property, plant and equipment	**$3,419,613**	**$890,351**	**$4,309,964**

(c) Information about impairment loss on property, plant and equipment by reportable segment

Year ended December 31, 2018	Millions of yen							
	Petrochemicals	Chemicals	Electronics	Inorganics	Aluminum	Others	Elimination	Total
Impairment loss on assets	**¥7**	**¥—**	**¥4,964**	**¥79**	**¥9,642**	**¥6,016**	**¥1,864**	**¥22,573**

Year ended December 31, 2017	Millions of yen							
	Petrochemicals	Chemicals	Electronics	Inorganics	Aluminum	Others	Elimination	Total
Impairment loss on assets	¥289	¥649	¥3,945	¥2,312	¥2	¥7	¥—	¥7,204

Year ended December 31, 2018	Thousands of U.S. dollars							
	Petrochemicals	Chemicals	Electronics	Inorganics	Aluminum	Others	Elimination	Total
Impairment loss on assets	**$65**	**$—**	**$44,723**	**$716**	**$86,866**	**$54,197**	**$16,792**	**$203,362**

(d) Information about amortization of goodwill and unamortized balance by reportable segment

Year ended December 31, 2018	Millions of yen							
	Petrochemicals	Chemicals	Electronics	Inorganics	Aluminum	Others	Elimination	Total
Amortization	**¥—**	**¥ 48**	**¥ 44**	**¥ 8**	**¥ 276**	**¥ 27**	**¥—**	**¥ 404**
Unamortized balance	**—**	**134**	**244**	**38**	**2,278**	**122**	**—**	**2,815**

Year ended December 31, 2017	Millions of yen							
	Petrochemicals	Chemicals	Electronics	Inorganics	Aluminum	Others	Elimination	Total
Amortization	¥—	¥ 48	¥ 44	¥ 8	¥ 282	¥ 28	¥—	¥ 410
Unamortized balance	—	186	288	46	2,660	148	—	3,328

Year ended December 31, 2018	Thousands of U.S. dollars							
	Petrochemicals	Chemicals	Electronics	Inorganics	Aluminum	Others	Elimination	Total
Amortization	**$—**	**$ 431**	**$ 399**	**$ 76**	**$ 2,487**	**$ 246**	**$—**	**$ 3,638**
Unamortized balance	**—**	**1,208**	**2,195**	**341**	**20,518**	**1,097**	**—**	**25,359**

Amortization of negative goodwill arose from business combinations prior to April 1, 2010 and its unamortized balance are as follows:

Year ended December 31, 2018	Millions of yen							
	Petrochemicals	Chemicals	Electronics	Inorganics	Aluminum	Others	Elimination	Total
Amortization	**¥—**	**¥ 308**	**¥ 33**	**¥—**	**¥ 54**	**¥ 28**	**¥—**	**¥ 422**
Unamortized balance	**—**	**1,780**	**293**	**—**	**486**	**17**	**—**	**2,575**

Year ended December 31, 2017	Millions of yen							
	Petrochemicals	Chemicals	Electronics	Inorganics	Aluminum	Others	Elimination	Total
Amortization	¥—	¥ 308	¥ 33	¥—	¥ 54	¥ 28	¥—	¥ 422
Unamortized balance	—	2,088	325	—	540	231	—	3,184

Year ended December 31, 2018	Thousands of U.S. dollars							
	Petrochemicals	Chemicals	Electronics	Inorganics	Aluminum	Others	Elimination	Total
Amortization	**$—**	**$ 2,774**	**$ 293**	**$—**	**$ 483**	**$255**	**$—**	**$ 3,805**
Unamortized balance	**—**	**16,037**	**2,637**	**—**	**4,377**	**150**	**—**	**23,201**

25. RELATED PARTY INFORMATION

(a) Related party transactions

The information for the fiscal years ended December 31, 2018 and 2017 was not disclosed because there were no significant transactions with related parties.

(b) Summary financial statements of significant affiliates

The information as of December 31, 2018 was not disclosed because there were no significant affiliates.

A significant affiliate as of December 31, 2017 was PT. Indonesia Chemical Alumina (ICA), and the summary of its financial statements was as follows:

	Millions of yen
Balance Sheets	
Total current assets	¥ 3,078
Total non-current assets	43,128
Total current liabilities	11,310
Total non-current liabilities	26,203
Total net assets	8,694
Statements of Income	
Net sales	2,830
Income before income taxes	(11,300)
Net income	(11,702)

In addition, in the consolidated financial statements for the consolidated fiscal year and as a result of recording impairment losses from the alumina factory of this company, equity in losses of unconsolidated subsidiaries and affiliates of ¥10,533 million was recorded as “other expenses.”

Report of Independent Certified Public Accountants

KPMG

Independent Auditor's Report

To the Board of Directors of Showa Denko K.K .:

We have audited the accompanying consolidated financial statements of Showa Denko K.K. and its consolidated subsidiaries, which comprise the consolidated balance sheets as at December 31, 2018 and 2017, and the consolidated income statements, statements of comprehensive income , statements of changes in net assets and statements of cash flows for the years then ended, and a summary of significant accounting policies and other explanatory information.

Management's Responsibility for the Consolidated Financial Statements

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

Auditor's Responsibility

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

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

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

Opinion

In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of Showa Denko K.K. and its consolidated subsidiaries as at December 31, 2018 and 2017, and their financial performance and cash flows for the years then ended in accordance with accounting principles generally accepted in Japan.

Convenience Translation

The U.S. dollar amounts in the accompanying consolidated financial statements with respect to the year ended December 31, 2018 are presented solely for convenience. Our audit also included the translation of yen amounts into U.S. dollar amounts and, in our opinion, such translation has been made on the basis described in Note 5 to the consolidated financial statements.

KPMG AZSA LLC

April 5, 2019
Tokyo, Japan

Corporate Data

Investor Information

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Ordinary General Meeting

The Ordinary General Meeting of Shareholders was held on March 28, 2019.

Shareholders (Top 10) *(At December 31, 2018)*

Shareholder	Number of Shares Held (in thousands)	Rate of Shareholding (%)
The Master Trust Bank of Japan Ltd. (T)	9,748	6.67
Japan Trustee Services Bank Ltd. (T)	6,470	4.43
MSCO CUSTOMER SECURITIES	5,574	3.81
Fukoku Mutual Life Insurance Company	5,017	3.43
The Dai-ichi Life Insurance Company Limited	3,600	2.46
Japan Trustee Services Bank Ltd. (T9)	3,548	2.43
CDSIL AS DEPOSITARY FOR OLD MUTUAL GLOBAL INVESTORS SERIES	3,418	2.34
NORTHERN TRUST CO. (AVFC) SUB A/C USL NON TREATY	3,218	2.20
Meiji Yasuda Life Insurance Company	2,645	1.81
Sompo Japan Nipponkoa Insurance Inc.	2,556	1.75

Note: Each rate of shareholding was calculated after deducting the number of treasury shares (3,548 thousand) from the number of shares outstanding.

Number of Shares Outstanding

149,711,292 at December 31, 2018

Number of Shareholders

70,471 at December 31, 2018

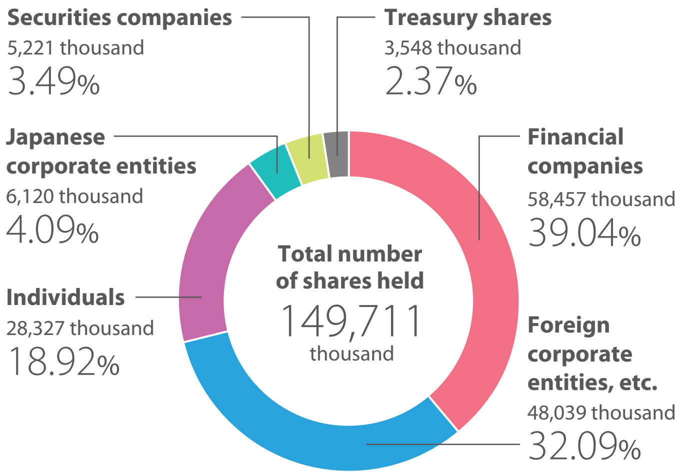
Classification of Stock

All stock issued by Showa Denko is common stock.

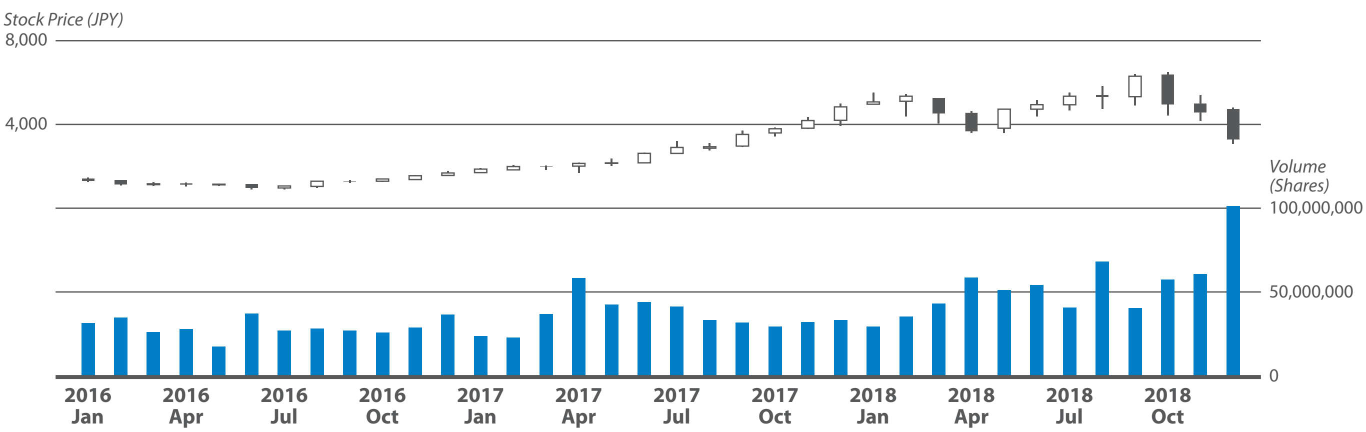
Stock Transfer Agent

Mizuho Trust & Banking Co., Ltd.
2-1, Yaesu 1-chome, Chuo-ku, Tokyo 103-8670, Japan

Shareholders by Sector *(At December 31, 2018)*



Stock Price and Trading Volume



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