

Third Quarter, 2019 Consolidated Financial Results (Summary)

1. Third Quarter Results 2019

(1) Summary

(Unit: billions of yen)

Items	2018 Jan. 1 - Sept.30	2019 Jan. 1 - Sept.30	Increase/ decrease	2019 Forecast *
Net Sales	724.9	695.6	-29.4	980.0
Operating Income	134.5	109.3	-25.2	145.0
Net income attributable to owners of the parent	99.3	81.0	-18.3	90.0

*Forecast revised on Aug. 7, 2019.

(2) Net Sales and Operating Income by Segment

(Unit: billions of yen)

Segment		2018 Jan. 1 - Sept.30	2019 Jan. 1 - Sept.30	Increase/ decrease	2019 Forecast *
Net Sales	Petrochemicals	191.6	189.6	-2.0	260.0
	Chemicals	115.1	115.6	0.5	160.0
	Electronics	85.3	70.0	-15.3	105.0
	Inorganics	192.2	190.1	-2.0	270.0
	Aluminum	81.1	73.7	-7.4	105.0
	Others	101.7	95.8	-5.9	135.0
	Adjustments	-42.0	-39.2	2.7	-55.0
	Total	724.9	695.6	-29.4	980.0
Operating Income	Petrochemicals	15.5	13.3	-2.2	15.5
	Chemicals	12.6	9.5	-3.1	14.5
	Electronics	10.8	3.0	-7.8	8.0
	Inorganics	97.9	84.9	-13.0	111.0
	Aluminum	4.0	1.4	-2.6	2.5
	Others	1.4	0.9	-0.4	1.0
	Adjustments	-7.7	-3.7	4.0	-7.5
	Total	134.5	109.3	-25.2	145.0

(Unit: billions of yen)

Segment		2019 CQ1 Jan. 1 - Mar.31	2019 CQ2 Apr.1 - Jun.30	2019 CQ3 Jul.1 - Sept.30
Net Sales	Petrochemicals	62.7	64.8	62.1
	Chemicals	36.0	37.5	42.1
	Electronics	20.6	24.0	25.4
	Inorganics	72.4	70.3	47.4
	Aluminum	23.8	25.3	24.7
	Others	32.4	31.9	31.5
	Adjustments	-13.1	-13.0	-13.1
	Total	234.7	240.8	220.1
Operating Income	Petrochemicals	4.0	4.5	4.8
	Chemicals	2.4	3.1	4.0
	Electronics	-0.3	1.2	2.0
	Inorganics	39.5	32.3	13.1
	Aluminum	0.3	0.2	0.9
	Others	0.3	0.3	0.3
	Adjustments	-0.8	-1.6	-1.3
	Total	45.4	40.1	23.8

SIC epitaxial wafer business was transferred from the Others segment to the Electronics segment at the beginning of 2019.
The above data for 2018 and 2019 are based on this new segmentation.

2. Cash dividends

Items	2018	2019 Forecast
Cash dividends per share (yen)	120.0	130.0

3. Reference

Items	2018 Jan. 1 - Sept.30	2019 Jan. 1 - Sept.30	Increase/ decrease
Exchange rate (yen/US\$)	109.6	109.2	Yen appreciated by 0.5
Domestic naphtha price (yen/kl)	50,050	42,250	-7,800

(Unit: billions of yen)

Items	Dec. 31, 2018	Sept. 30, 2019	Increase/ decrease
Total assets	1,075.0	1,069.2	-5.8
Interest-bearing debt	288.0	304.6	16.6

Note : The above forecast is based on the information available as of today and assumptions as of today regarding risk factors that could affect our future performance. Actual results may differ materially from the forecast due to a variety of risk factors, including, but not limited to, the economic conditions, costs of naphtha and other raw materials, demand or market conditions for our products such as graphite electrodes and other commodities, and foreign exchange rates. We undertake no obligation to update the forward-looking statements unless required by law.

Consolidated Financial Statements

For the first three quarters ended September 30, 2019



MEMBERSHIP

November 6th, 2019

I. Consolidated Financial Results

(1) Results of operations:

(¥ in millions, US\$ in thousands, except for net income attributable to owners of the parent per share)

	Results for the first three quarters (Jan.1-Sep.30)			
	2018	2019	Increase (Decrease)	2019
Net sales	¥ 724,938	¥ 695,575	% (4.1)	\$ 6,445,284
Operating income	134,495	109,313	(18.7)	1,012,908
Ordinary income	134,185	107,587	(19.8)	996,919
Net income attributable to owners of the parent	99,272	80,963	(18.4)	750,209
Net income attributable to owners of the parent per share: Basic	676.47	555.01	—	5.14
Net income attributable to owners of the parent per share: Diluted	—	—	—	—

Notes

Important changes in accounting policies : not applicable

Comprehensive income :

Results for the year ended September 30, 2019 ¥75,929 million

Results for the year ended September 30, 2018 ¥98,572 million

(2) Financial position:

(¥ in millions, US\$ in thousands, except for stockholders' equity ratio)

	Dec.31, 2018	Sep.30, 2019	Sep.30, 2019
Total assets	¥ 1,074,983	¥ 1,069,185	\$ 9,907,204
Total equity	465,340	518,326	4,802,870
Stockholders' equity ratio	41.5%	46.6%	46.6%

(3) Dividends:

	2018	2019 Forecast
Q1 dividends per share (¥)	—	—
Q2 dividends per share (¥)	20.00	50.00
Q3 dividends per share (¥)	—	—
End of Term dividends per share (¥)	100.00	80.00
Annual dividends per share (¥)	120.00	130.00

II. Forecast of performance for the year ending December 31, 2019

(¥ in millions, US\$ in thousands, except for net income attributable to owners of the parent per share)

	fiscal year	
	¥	\$
Net sales	980,000	9,080,801
Operating income	145,000	1,343,588
Ordinary income	142,000	1,315,789
Net income attributable to owners of the parent	90,000	833,951
Net income attributable to owners of the parent per share: Basic	616.96	5.72

*There is no change from the full-year 2019 performance forecast announced on August 7th, 2019.

The above forecast is based on the information available at this point of time. Actual results may differ materially due to a variety of reasons, including such economic factors as fluctuations in foreign currency exchange rates as well as market supply and demand conditions.

Note

Yen amounts have been translated into U.S.dollars for convenience only, at the rate of ¥107.92 to US\$1.00, the approximate rate of exchange as of September 30, 2019.

[Business Results and Financial Conditions]

1. Analysis of consolidated business results

(1) Summary

During the first three quarters of 2019 (January 1 – September 30), the Japanese economy continued to recover gradually. Consumer spending remained firm against the background of good employment situation. Corporate earnings showed downward trend centering on manufacturing industry due to a slowdown in export and a decrease in domestic production. Overseas economies were slowing down. Though the U.S. economy continued to recover gradually, a feeling of slowdown of the European economy was strengthened. Chinese economy was slowing down due to US-China trade friction, and it is desired that measures to stimulate the slowing down economy taken by relevant authorities be fully effective. The economies of ASEAN countries also showed a sign of slowdown. Mood of uncertainty over future prospects for global economy has been enhanced by global issues such as prolonged adjustment of production in the semiconductor industry, and lowering production in the automotive industry centering on Europe and China, in addition to the tense economic environment caused by US-China trade friction and the unstable situation in the Middle East.

In the petrochemicals industry, domestic plants to produce ethylene and its derivatives maintained high operating rate. However, in the East Asian market, the supply-demand situation of petrochemicals was slightly eased due to a slowdown in the Chinese economy. In the electronics parts/materials industry, semiconductors and display panels remained under the harsh adjustment of production due to continuing low-level shipment volumes of PCs and smartphones.

Under these circumstances, the Showa Denko Group started its new medium-term consolidated business plan “The TOP 2021” in January 2019. It is very important for the Showa Denko Group to enhance the value of the Group and satisfy all stakeholders including shareholders, customers, suppliers, local communities and employees in order that the Group continuously grows and becomes trusted and acclaimed by society. The Showa Denko Group defines this idea as the Group’s business philosophy, thereby promoting management to maximize shareholders’, customers’ and social value. The Group will change its course toward long-term business growth, strengthen its earning power and reduce the range of fluctuation in income through promotion of “The TOP 2021,” enhance the value of the Group, and establish a stable foundation which will continuously support the Group’s growth far into the future.

The Group recorded consolidated net sales of ¥695,575 million in the first three quarters of 2019, down 4.1% from the same period of the previous year. Sales in the Chemicals segment slightly increased. However, sales in the Electronics segment decreased due to a decrease in shipment volumes of HD media. Sales in the Aluminum and other segments also decreased.

Operating income of the Group in the first three quarters of 2019 decreased 18.7%, to ¥109,313 million. In the Inorganics segment, we reduced production volumes of graphite electrodes. In the Electronics segment, shipment volumes of HD media decreased especially in the first half of the year. The Group recorded ordinary income of ¥107,587 million, down 19.8% from the same period of the previous year.

The Group recorded net income attributable to owners of the parent of ¥80,963 million in the first three quarters of 2019, down 18.4% from the same period of the previous year.

(Unit: millions of yen)

	2018 1Q - 3Q (Jan.-Sept.)	2019 1Q - 3Q (Jan.-Sept.)	Increase/ decrease	2018 July-Sept.	2019 July-Sept.	Increase/ decrease
Sales	724,938	695,575	-29,362	269,093	220,081	-49,012
Operating income	134,495	109,313	-25,182	56,630	23,842	-32,788
Ordinary income	134,185	107,587	-26,597	56,613	22,757	-33,856
Net income attributable to owners of the parent	99,272	80,963	-18,309	41,323	15,149	-26,173

(2) A breakdown of net sales and operating income by segment (January 1 - September 30, 2019)

[Petrochemicals segment]

In the Petrochemicals segment, sales decreased 1.1%, to ¥189,578 million. Sales volumes of ethylene and propylene in the first three quarters of 2019 increased from the same period of the previous year because there was no once-in-four-year large-scale shutdown maintenance of ethylene production facilities which took place in the first half of 2018. However, sales of petrochemical products decreased due to a fall in market prices in Asia resulting from easing supply-demand situation. Sales of organic chemicals decreased due partly to a decline in market prices of vinyl acetate and ethyl acetate. Operating income of the segment decreased 14.2 %, to ¥13,279 million.

(Unit: millions of yen)

	2018 1Q - 3Q (Jan.-Sept.)	2019 1Q - 3Q (Jan.-Sept.)	Increase/ decrease	2018 July-Sept.	2019 July-Sept.	Increase/ decrease
Sales	191,622	189,578	-2,044	76,211	62,098	-14,113
Operating income	15,480	13,279	-2,201	8,068	4,814	-3,254

[Chemicals segment]

In the Chemicals segment, sales increased 0.4%, to ¥115,577 million. In the basic chemicals business, sales slightly decreased. Sales of liquefied ammonia and chloroprene rubber were at the same levels of the year-before period. However, sales of acrylonitrile decreased due to a fall in the market price. Shipment volumes and sales of electronic chemicals decreased due to adjustment of production in the semiconductor and display industries. On the other hand, in the industrial gases and functional chemicals businesses, sales slightly increased. In addition, non-stick coating materials companies which we acquired in recent years were newly consolidated. As a result, sales in the Chemicals segment increased. However, operating income of the segment decreased 24.5%, to ¥9,514 million.

(Unit: millions of yen)

	2018 1Q - 3Q (Jan.-Sept.)	2019 1Q - 3Q (Jan.-Sept.)	Increase/ decrease	2018 July-Sept.	2019 July-Sept.	Increase/ decrease
Sales	115,073	115,577	505	40,453	42,052	1,599
Operating income	12,608	9,514	-3,094	4,856	3,992	-864

[Electronics segment]

In the Electronics segment, sales decreased 18.0%, to ¥70,020 million. Sales of HD media decreased due partly to the bearish shipment volumes of media for PCs. In

addition, shipment volumes of HD media for use in data centers in the first half of 2019 decreased due to a global slowdown in investment in the field of information technology (IT). Sales of rare earth magnetic alloys decreased due to structural reforms. Sales of compound semiconductors decreased due to a decrease in shipment volumes. Sales of lithium-ion battery (LIB) materials decreased due to a decrease in shipment volumes. As for SiC epitaxial wafer business, sales increased due mainly to an increase in sales volumes of products for use in electric railcars and other equipment. Operating income of the segment decreased 72.5%, to ¥2,981 million.

(Unit: millions of yen)

	2018 1Q - 3Q (Jan.-Sept.)	2019 1Q - 3Q (Jan.-Sept.)	Increase/ decrease	2018 July-Sept.	2019 July-Sept.	Increase/ decrease
Sales	85,340	70,020	-15,321	28,618	25,432	-3,186
Operating income	10,829	2,981	-7,848	4,817	2,034	-2,782

SiC epitaxial wafer business was transferred from the Others segment to the Electronics segment at the beginning of 2019. Data in the table above are based on this new segmentation retrospective to 2018.

[Inorganics segment]

In the Inorganics segment, sales decreased 1.1%, to ¥190,119 million. Sales of graphite electrodes in the first three quarters of 2019 increased from the same period of the previous year, due to a rise in sales prices of graphite electrodes in the global market caused by tight supply-demand situation that occurred in 2018, despite a reduction in the Company's production and sales volumes of graphite electrodes starting from the middle of 2019 in order to respond to the weakening supply-demand situation mainly in the European market resulting from a slowdown in steel production and partial-clearance of our customers' graphite-electrode inventory. Sales of ceramics decreased due mainly to a fall in shipment volumes of general-purpose alumina, though the shipment volumes of fine ceramics for electronics remained at the same level of the year-before period. The segment recorded operating income of ¥84,902 million, down 13.3% from the same period of the previous year.

(Unit: millions of yen)

	2018 1Q - 3Q (Jan.-Sept.)	2019 1Q - 3Q (Jan.-Sept.)	Increase/ decrease	2018 July-Sept.	2019 July-Sept.	Increase/ decrease
Sales	192,151	190,119	-2,033	75,693	47,406	-28,287
Operating income	97,885	84,902	-12,982	39,778	13,066	-26,712

[Aluminum segment]

In the Aluminum segment, sales decreased 9.1%, to ¥73,698 million. Sales of aluminum rolled products decreased due to a decline in shipment volumes of high-purity foil for aluminum electrolytic capacitors, especially for use in industrial equipment and devices for data centers, resulting from adjustment of production. Sales of aluminum specialty components decreased due to a decline in shipment volumes of those for use in automotive parts and industrial equipment. Sales of aluminum cans remained at the same level of the year-before period. Operating income of the segment decreased 64.8%, to ¥1,424 million.

(Unit: millions of yen)

	2018 1Q - 3Q (Jan.-Sept.)	2019 1Q - 3Q (Jan.-Sept.)	Increase/ decrease	2018 July-Sept.	2019 July-Sept.	Increase/ decrease
Sales	81,060	73,698	-7,362	27,781	24,681	-3,100
Operating income	4,039	1,424	-2,615	1,370	944	-426

[Others segment]

In the Others segment, sales decreased 5.8%, to ¥95,830 million. SHOKO CO., LTD.'s sales decreased. Operating income of the segment decreased 31.2%, to ¥937 million.

(Unit: millions of yen)

	2018 1Q - 3Q (Jan.-Sept.)	2019 1Q - 3Q (Jan.-Sept.)	Increase/ decrease	2018 July-Sept.	2019 July-Sept.	Increase/ decrease
Sales	101,686	95,830	-5,856	34,436	31,527	-2,910
Operating income	1,362	937	-424	431	325	-106

SiC epitaxial wafer business was transferred from the Others segment to the Electronics segment at the beginning of 2019. Data in the table above are based on this new segmentation retrospective to 2018.

(3) Major steps taken or decided after the settlement of accounts for the first half of 2019

[General]

- Set 2030 GHG reduction target conforming to global standard

In July 2019, SDK set a medium-term target figure to reduce emissions of greenhouse gases (GHGs) by 2030. In addition, recognizing importance of information disclosure to the global community, SDK has decided to announce the amount of the Showa Denko Group's GHG emissions in conformity with "GHG Protocol," which is the global standard, starting from the data for FY 2018 (April 2018 - March 2019). Based on these policies, the Showa Denko Group set a goal of 11% reduction of GHG emissions from its domestic bases for FY 2030 compared with that for FY 2013. In addition, with the announcement of data for FY2018 as its beginning, the Showa Denko Group has started to disclose the total amount of GHG emissions from bases at home and abroad in accordance with GHG Protocol, namely, the amount of direct GHG emissions from the Group's own facilities (Scope 1), the amount of indirect GHG emissions from purchased or acquired electricity, steam and heat (Scope 2), and the amount of indirect GHG emissions from the corporate value chain (Scope 3). The Group will announce these data through its integrated report (Showa Denko Report), its Website explaining the Group's CSR activities, and other media. Moreover, aiming to set the Group's global warming mitigation measures as a part of its business strategy, the Group will introduce Internal Carbon Pricing* mechanism and incorporate reduction of GHG emissions into the decision-making process for investment as a factor to be considered. The Showa Denko Group will continue introducing environment-conscious production equipment and technologies, promoting environment protection measures, and providing products that support recycling-oriented society, thereby contributing to creation of society where affluence and sustainability are harmonized.

*Internal Carbon Pricing: This mechanism assumes a situation in which emission of CO₂ is taxed, makes target organizations recognize the value of low-carbon operation, and motivates them to choose investment programs with less CO₂ emission.

- Acquired ILAG Group, global non-stick coatings manufacturer

In July 2019, SDK acquired all shares in ILAG Industrielack AG, which leads the ILAG Group (ILAG), a specialty non-stick coating materials manufacturing company. Non-stick coating materials (NSCs) are used on consumer goods such as cookware, bakeware, and home electrical appliances, and also on industrial goods including automotive parts and other industrial equipment, for the purposes of preventing sticking of substances on their surfaces and supporting low friction and release during use. The global market for NSCs is put about ¥130 billion (about \$1.2 billion) a year (SDK's estimate as of May 2019). ILAG has the fourth largest share in the consumer-goods NSC market of worldwide operating companies. ILAG exports its products to more than 50 countries. On the other hand, SDK already acquired GMM Group, another large manufacturer of NSCs for

consumer goods, in November 2016. Therefore, SDK Group can pursue a synergy effect of integrated operation and marketing between ILAG and GMM groups because they have competitive market shares in different geographic areas in the world. In addition, after the acquisition of ILAG, annual sales figure of SDK's NSC business leaped up to about \$60 million, and now has strong presence and competitiveness in global market, especially in the field of consumer goods. SDK's functional polymer/monomer business sector manufactures and sells materials for coatings for various purposes, and have rich expertise in prescription and manufacturing of raw materials for high-performance coatings and evaluation of performance of those coatings. NSCs can be classified into three categories in terms of raw materials, namely, fluorinated-resin based, silicon based, and Sol-Gel based coatings. Therefore, SDK can offer optimum solutions to its own NSC business by taking advantage of its wide-ranging businesses, products and technologies as an integrated chemical company.

- Established a technology to joint aluminum alloy and polycarbonate directly
SDK developed a technology to joint aluminum alloy and polycarbonate resin directly. Mechanical joining with bolts and nuts and gluing is widely used to joint metal and plastics. Technologies to joint metal and resins directly when resin materials are injected for molding are now attracting manufacturers' attention because such technologies enable manufacturers to simplify manufacturing processes, improve productivity, and process parts with complicated shapes. It has been believed difficult to joint aluminum alloy with amorphous engineering plastics including polycarbonate resin by utilizing joining technologies depending on mechanical cohesiveness including anchoring. However, SDK has successfully developed a technology to joint aluminum alloy and polycarbonate resin directly by utilizing our special surface-treatment technology and expertise in primers. This new technology is characterized with joining mechanism utilizing not only anchoring effect but also chemical cohesiveness. In addition, in experiments, this technology successfully achieved cohesiveness of more than 25Mpa between aluminum alloy and polycarbonate under normal molding condition for polycarbonate resin. Since this technology realizes direct joining between polycarbonate resin, which has wide multiplicity of use, and light aluminum alloy, it is applicable to molding of composite housings for smartphones and other equipment. For the future, we will aim to strengthen cohesiveness and durability of this joining, apply this technology to heat-resistant super-engineering plastics, and put automotive parts made with this technology to practical use.
- Gained government approval for the Company's plan for innovative use of data
In July this year, SDK's plan for establishing a new information platform was approved by the government as one of the "Plans for Innovative Use of Data for Industrial Activities." In accordance with the Article 22 of the Act on Special Measures for Productivity Improvement, Minister for Internal Affairs and Communications as well as Minister of Economy, Trade and Industry approve capital investment plans for productivity improvement (in terms of labor productivity and return on investment) through coordination and utilization of data with prescribed cybersecurity measures. In cases of capital investments based on such approved plans, companies can receive government support in the form of tax credit and special depreciation. SDK has decided to introduce "SAP S/4HANA," an enterprise resource planning (ERP) system developed by SAP SE. Based on the system, SDK will establish a platform for unified management of information on sales, accounting and procurement pertaining to various sites it operates globally. The unified data under "SAP/S4HANA" will be supplied to new systems of sales target and profit/loss simulation, and analyzes. Thus SDK will achieve a proactive management style, and its plan for establishing the new information platform has been approved as a

Plan for innovative Use of Data for Industrial Activities. Under its medium-term business plan “The TOP 2021,” SDK aims to maximize CUSTOMER Experience through utilization of artificial intelligence (AI) and internet of things (IoT). By establishing the new information platform, SDK will continue increasing management efficiency and creating best solutions through integration of various products and services.

[Petrochemicals segment]

- Decided to commercialize 1,3-BG

In October this year, SDK decided to commercialize 1,3-butylene glycol (1,3-BG), which is mainly used as raw material for cosmetics. SDK will finish installation of facilities to produce 1,3-BG in its Oita Complex by the end of 2019, and plans to start sale of the product in April 2020. 1,3-BG is mixed into many kinds of cosmetics as moisturizing component. Due to rapid growth in Asian demand for cosmetics, the demand for 1,3-BG is expected to increase 10% every year*. SDK will support the growth of cosmetics market centering on Asia from supply side of raw materials including 1,3-BG. In addition, SDK will realize production of 1,3-BG with quality good enough to be used as an ingredient of cosmetics by utilizing its original technology. In Oita Complex, SDK will practice integrated production of 1,3-BG from ethylene. SDK will continue striving to make its petrochemicals business the most competitive one in East Asia by enhancing its profitability through commercialization of new derivatives and improvement in mutual cooperation among members of the regional complex, including strengthening of its acetyl chain.

*SDK's estimate

[Chemicals segment]

- Started shipments of BMC for TOYOTA's hybrid vehicles in China

SDK started supplying bulk molding compound (BMC) to Toyota Motor Corporation (TOYOTA) as sealing material for generator motors used in COROLLA HYBRID and LEVIN HYBRID recently launched in China. SDK's BMC has such characteristics as high heat conductivity, insulation properties, heat resistance, fluidity, dimensional stability and chemical resistance. The material has been used as sealing material for generator motors for hybrid vehicles (HVs), such as TOYOTA's PRIUS. This time, TOYOTA decided to develop and produce electric-vehicle power trains in China on the occasion of the introduction of two new HV models for the Chinese market. In response to this new policy, Shanghai Showa Highpolymer started producing BMC for HVs for the first time since its foundation in 2010, and supplying the material to Toyota Motor (Changshu) Auto Parts. The Chinese government introduced this year a new environmental regulation, obliging car makers to produce a certain number of new energy vehicles (NEVs). There is a move to spread the use of HVs as fuel-efficient cars for environmental protection. Thus, the HV market in China is expected to grow further.

[Electronics segment]

- Developed second generation of high-grade SiC epitaxial wafers

SDK has developed a second generation of high-grade silicon carbide (SiC) epitaxial wafers (HGE-2G) for power semiconductors. SDK has been mass-producing the first generation of high-grade epitaxial wafers under the trade name of “High-Grade Epi” (HGE). HGE-2G achieved further improvement in quality. When compared with the currently mainstream silicon-based semiconductors, SiC-based power semiconductors can operate under high-temperature, high-voltage, and high-current conditions while substantially reducing energy loss. These features enable device manufacturers to produce smaller, lighter and more energy-efficient power control modules, and the products' market is rapidly expanding. SiC power semiconductors are already used in

power modules for servers in data centers, on-board battery chargers and rapid charging stands for EVs. In addition, SiC power semiconductors are expected to be used in power control units (PCU) for EVs in the first half of 2020s. Thus the demand for SiC-based semiconductors is expected to grow further. In recent years, improvement in quality of SiC epitaxial wafers and advances in device manufacturing process enabled manufacturers to put SiC-MOSFET into practical use, and full-SiC-based inverters with higher energy efficiency has begun to spread. For applications to inverter modules to drive motors for EVs and railcars, meanwhile, large chips measuring around 10mm square are made out of epitaxial wafers. This is because one device needs to handle a current as high as 100A. To prevent deterioration in the production yield of such large chips, the defect density on the surface of epitaxial wafers should be controlled to be less than 0.1/cm². In the new product “HGE-2G,” SDK has succeeded in controlling the density of surface defect (SD), which affects production yield of power semiconductors, to be half of the current HGE by improving epitaxial SiC growth process. In addition, SDK has succeeded in enhancing reliability of power semiconductors through improving the basal plane dislocation (BPD) conversion rate by more than ten times compared with that of HGE. The global demand for SiC epitaxial wafers is expected to increase to be about ¥150 billion by 2025. As the largest independent manufacturer of SiC epitaxial wafers, and under a motto of “Best in Class,” SDK will continue coping with rapid expansion of the market for SiC epitaxial wafers, developing reliable products, and investing positively to expand its production capacity, thereby making its SiC epitaxial wafer business a *Koseiha* business.

2. Consolidated financial conditions as of September 30, 2019

Total assets at September 30, 2019 amounted to ¥1,069,185 million, a decrease of ¥5,798 million from the level at December 31, 2018. Total assets decreased due partly to a decrease in accounts receivable-trade, despite an increase in inventories. Total liabilities decreased ¥58,783 million from the level at December 31, 2018, to ¥550,860 million, due partly to a decrease in notes and accounts payable-trade, despite an increase in interest-bearing debts. Interest-bearing debts increased ¥16,603 million, to ¥304,571 million. Net assets increased ¥52,986 million from the level at December 31, 2018, to ¥518,326 million, due partly to the posting of net income attributable to owners of the parent.

3. Consolidated performance forecast

The consolidated performance forecast for full year 2019 we announced on August 7, 2019 remains unchanged.

(Unit: millions of yen)

	Net sales	Operating income	Ordinary income	Net income attributable to owners of the parent
Forecast of results for full-year 2019	980,000	145,000	142,000	90,000

Consolidated Balance Sheets

(¥ in millions, US\$ in thousands)

	Dec. 31, 2018	Sep. 30, 2019	Sep. 30, 2019
Assets	¥	¥	\$
Current assets			
Cash and deposits	113,186	119,675	1,108,920
Notes and accounts receivable-trade	203,730	162,314	1,504,024
Merchandise and finished goods	65,882	75,195	696,766
Work in process	26,160	32,952	305,340
Raw materials and supplies	60,758	66,235	613,741
Other	28,202	27,746	257,095
Allowance for doubtful accounts	(1,386)	(857)	(7,943)
Total current assets	496,533	483,260	4,477,943
Noncurrent assets			
Property, plant and equipment			
Buildings and structures, net	78,777	80,181	742,966
Machinery, equipment and vehicles, net	146,764	139,526	1,292,870
Land	234,987	236,755	2,193,805
Other, net	17,879	25,942	240,383
Total property, plant and equipment	478,406	482,405	4,470,023
Intangible assets			
Other	14,950	22,138	205,138
Total intangible assets	14,950	22,138	205,138
Investments and other assets			
Investment securities	71,886	70,381	652,163
Other	21,540	18,867	174,821
Allowance for doubtful accounts	(8,332)	(7,866)	(72,884)
Total investments and other assets	85,094	81,382	754,100
Total noncurrent assets	578,450	585,926	5,429,261
Total assets	1,074,983	1,069,185	9,907,204
Liabilities			
Current liabilities			
Notes and accounts payable-trade	139,420	107,557	996,638
Short-term loans payable	61,747	54,029	500,642
Current portion of long-term loans payable	41,403	34,497	319,653
Commercial papers	20,000	—	—
Provision	3,714	7,994	74,076
Other	95,791	60,894	564,250
Total current liabilities	362,074	264,972	2,455,259
Noncurrent liabilities			
Bonds payable	42,000	62,000	574,500
Long-term loans payable	122,818	154,045	1,427,397
Provision	4,133	3,609	33,442
Net defined benefit liability	22,018	12,133	112,422
Other	56,599	54,102	501,314
Total noncurrent liabilities	247,569	285,888	2,649,075
Total liabilities	609,643	550,860	5,104,334
Net assets			
Shareholders' equity			
Capital stock	140,564	140,564	1,302,479
Capital surplus	78,911	78,912	731,208
Retained earnings	197,717	257,123	2,382,533
Treasury stock	(11,659)	(11,663)	(108,068)
Total shareholders' equity	405,532	464,936	4,308,152
Accumulated other comprehensive income			
Valuation difference on available-for-sale securities	7,489	9,108	84,395
Deferred gains or losses on hedges	836	(108)	(1,003)
Revaluation reserve for land	33,281	32,990	305,692
Foreign currency translation adjustment	7,069	(2,018)	(18,698)
Remeasurements of defined benefit plans	(8,244)	(6,807)	(63,072)
Total accumulated other comprehensive income	40,431	33,165	307,315
Non-controlling interests	19,377	20,224	187,402
Total net assets	465,340	518,326	4,802,870
Total liabilities and net assets	1,074,983	1,069,185	9,907,204

Consolidated Statements of Income

(¥ in millions, US\$ in thousands)

	Results for the first three quarters (Jan. 1-Sep. 30)		
	2018	2019	2019
	¥	¥	\$
Net sales	724,938	695,575	6,445,284
Cost of sales	510,569	502,653	4,657,644
Gross profit	214,368	192,922	1,787,639
Selling, general and administrative expenses	79,873	83,609	774,732
Operating income	134,495	109,313	1,012,908
Non-operating income			
Interest income	579	825	7,646
Dividends income	1,032	987	9,148
Equity in earnings of affiliates	974	228	2,117
Rent income on noncurrent assets	1,024	1,017	9,423
Miscellaneous income	1,341	734	6,801
Total non-operating income	4,950	3,792	35,136
Non-operating expenses			
Interest expenses	2,347	1,761	16,315
Loss on mothballing of operation	1,034	1,160	10,752
Miscellaneous expenses	1,878	2,596	24,058
Total non-operating expenses	5,260	5,517	51,125
Ordinary income	134,185	107,587	996,919
Extraordinary income			
Gain on sales of noncurrent assets	83	653	6,054
Gain on sales of investment securities	281	1,341	12,422
Gain on liquidation of subsidiaries	151	—	—
Other	22	160	1,481
Total extraordinary income	537	2,154	19,958
Extraordinary loss			
Loss on sales and retirement of noncurrent assets	2,406	1,939	17,969
Impairment loss	90	1,289	11,942
Other	574	1,056	9,786
Total extraordinary losses	3,071	4,284	39,697
Profit before income taxes	131,652	105,457	977,179
Income taxes	27,910	22,173	205,455
Net income	103,742	83,285	771,725
Net income attributable to non-controlling interests	4,470	2,322	21,516
Net income attributable to owners of the parent	99,272	80,963	750,209

Consolidated Statements of Comprehensive Income

(¥ in millions, US\$ in thousands)

	Results for the first three quarters (Jan. 1-Sep. 30)		
	2018	2019	2019
	¥	¥	\$
Profit	103,742	83,285	771,725
Other comprehensive income:			
Valuation difference on available-for-sale securities	(3,015)	1,642	15,217
Deferred gains or losses on hedges	(1,993)	(945)	(8,758)
Foreign currency translation adjustments	(1,214)	(9,391)	(87,019)
Remeasurements of defined benefit plans, net of tax	1,099	1,452	13,458
Share of other comprehensive income of entities accounted for using equity method	(48)	(114)	(1,053)
Total other comprehensive income	(5,170)	(7,355)	(68,155)
Comprehensive income	98,572	75,929	703,570
(Comprehensive income attributable to)			
Comprehensive income attributable to owners of the parent	94,400	73,988	685,583
Comprehensive income attributable to non-controlling interests	4,172	1,941	17,987

(Reference)

SEGMENT INFORMATION

Information about sales and operating income :

9 Months ended September 30, 2018

Millions of yen

	Petrochemicals	Chemicals	Electronics	Inorganics	Aluminum	Others	Elimination	Consolidated
Sales								
Outside customers	¥183,948	¥102,314	¥84,060	¥185,847	¥74,230	¥94,539	¥-	¥724,938
Inter-segment	7,674	12,759	1,280	6,304	6,830	7,147	(41,995)	-
Total	191,622	115,073	85,340	192,151	81,060	101,686	(41,995)	724,938
Operating income (loss)	¥15,480	¥12,608	¥10,829	¥97,885	¥4,039	¥1,362	(¥7,707)	¥134,495

9 Months ended September 30, 2019

Millions of yen

	Petrochemicals	Chemicals	Electronics	Inorganics	Aluminum	Others	Elimination	Consolidated
Sales								
Outside customers	¥182,026	¥102,574	¥69,503	¥184,516	¥68,269	¥88,687	¥-	¥695,575
Inter-segment	7,552	13,003	517	5,603	5,429	7,143	(39,247)	-
Total	189,578	115,577	70,020	190,119	73,698	95,830	(39,247)	695,575
Operating income (loss)	¥13,279	¥9,514	¥2,981	¥84,902	¥1,424	¥937	(¥3,725)	¥109,313

9 Months ended September 30, 2019

Thousands of U.S. dollars

	Petrochemicals	Chemicals	Electronics	Inorganics	Aluminum	Others	Elimination	Consolidated
Sales								
Outside customers	\$1,686,675	\$950,468	\$644,020	\$1,709,744	\$632,592	\$821,785	\$-	\$6,445,284
Inter-segment	69,978	120,486	4,791	51,918	50,306	66,189	(363,668)	-
Total	1,756,653	1,070,954	648,811	1,761,662	682,898	887,974	(363,668)	6,445,284
Operating income (loss)	\$123,042	\$88,161	\$27,627	\$786,717	\$13,191	\$8,684	(\$34,514)	\$1,012,908