

Third Quarter, 2021 Consolidated Financial Results (Summary)

1. Third Quarter Results 2021

(1) Summary

(Unit: billions of yen)

Items	2020	2021	Increase/ decrease	2021 Forecast *
	Jan.1 - Sept.30	Jan.1 - Sept.30		
Net Sales	636.0	1,051.7	415.7	1,400.0
Operating Income	-27.4	71.9	99.3	85.0
Net income attributable to owners of the parent	-66.3	-10.3	56.0	-25.0

*Forecast revised on Aug. 3, 2021.

Showa Denko K.K. made Showa Denko Materials Co., Ltd. (Showa Denko Materials) a consolidated subsidiary, and started on July 1, 2020 to incorporate Showa Denko Materials' sales figures and incomes/losses into its consolidated financial statements.
At the end of 2020, we finalized tentative accounting values concerning consolidation of Showa Denko K.K. and Showa Denko Materials Co., Ltd. In comparison of the financial results for the first three quarters of 2020 and those of 2021, we used finalized values.

(2) Net Sales and Operating Income by Segment

(Unit: billions of yen)

Segment		2020	2021	Increase/ decrease	2021 Forecast *
		Jan.1 - Sept.30	Jan.1 - Sept.30		
Petrochemicals	Net Sales	142.5	201.7	59.1	265.0
	Op. Income	1.3	17.2	15.9	17.0
Chemicals	Net Sales	113.0	135.6	22.5	180.0
	Op. Income	9.3	16.4	7.1	19.5
Electronics	Net Sales	68.7	83.3	14.5	115.0
	Op. Income	4.8	9.5	4.7	15.5
Inorganics	Net Sales	61.3	72.2	10.9	100.0
	Op. Income	-26.2	11.9	38.1	12.0
Aluminum	Net Sales	58.4	61.7	3.2	75.0
	Op. Income	-0.3	6.5	6.7	7.5
Showa Denko Materials	Net Sales	144.8	481.6	336.7	650.0
	Op. Income	-9.2	18.6	27.7	26.5
Others	Net Sales	80.0	38.9	-41.2	40.0
	Op. Income	0.6	0.1	-0.6	0.2
Adjustments	Net Sales	-32.9	-23.1	9.8	-25.0
	Op. Income	-7.7	-8.1	-0.4	-13.2
Total	Net Sales	636.0	1,051.7	415.7	1,400.0
	Op. Income	-27.4	71.9	99.3	85.0

Showa Denko K.K. started on July 1, 2020 to incorporate Showa Denko Materials' sales figures and incomes/losses into its financial statements as "Showa Denko Materials segment." In this segment, at the end of 2020, we finalized tentative accounting values concerning consolidation of Showa Denko K.K. and Showa Denko Materials Co., Ltd. In comparison of the financial results for the first three quarters of 2020 and those of 2021, we used finalized values.

(Unit: billions of yen)

Segment		2021 CQ1	2021 CQ2	2021 CQ3
		Jan.1 - Mar.31	Apr.1 - Jun.30	Jul.1 - Sept.30
Petrochemicals	Net Sales	57.8	69.5	74.4
	Op. Income	5.5	6.2	5.5
Chemicals	Net Sales	41.3	45.4	48.9
	Op. Income	4.9	5.8	5.8
Electronics	Net Sales	21.7	27.7	33.9
	Op. Income	1.4	3.8	4.3
Inorganics	Net Sales	21.2	25.2	25.8
	Op. Income	1.0	5.3	5.6
Aluminum	Net Sales	22.5	25.2	13.9
	Op. Income	2.3	3.3	0.8
Showa Denko Materials	Net Sales	159.6	160.6	161.4
	Op. Income	7.6	5.0	6.0
Others	Net Sales	28.2	5.5	5.2
	Op. Income	0.2	-0.1	-0.1
Adjustments	Net Sales	-12.5	-5.3	-5.3
	Op. Income	-2.0	-2.5	-3.6
Total	Net Sales	339.7	353.7	358.3
	Op. Income	20.8	26.8	24.4

2. Cash dividends

Items	2020	2021 Forecast
Cash dividends per share (yen)	65.0	65.0

3. Reference

Items	2020	2021	Increase/ decrease
	Jan.1 - Sept.30	Jan.1 - Sept.30	
Exchange rate (yen/US\$)	107.6	108.5	0.9 Yen depreciated by
Domestic naphtha price (yen/kl)	33,350	46,650	13,300

(Unit: billions of yen)

Items	Dec. 31, 2020	Sept. 30, 2021	Increase/ decrease
	Total assets	2,203.6	
Interest-bearing debt	1,060.1	969.3	-90.9

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 influence of the coronavirus disease 2019 (COVID-19) on the world economy, 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, 2021



I. Consolidated Financial Results

November 10th, 2021

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

(1) Results of operations:

	Results for the first three quarters (Jan.1-Sep.30)			
	2020	2021	Increase (Decrease)	2021
Net sales	¥ 635,977	¥ 1,051,696	% 65.4	\$ 9,396,854
Operating income	(27,353)	71,926	—	642,655
Ordinary income	(49,280)	73,289	—	654,834
Net income attributable to owners of the parent	(66,307)	(10,330)	—	(92,299)
Net income attributable to owners of the parent per share: Basic	(454.53)	(69.78)	—	(0.62)
Net income attributable to owners of the parent per share: Diluted	—	—	—	—

Showa Denko K.K. made Showa Denko Materials Co., Ltd. (Showa Denko Materials) a consolidated subsidiary, and started on July 1, 2020 to incorporate Showa Denko Materials' sales figures and incomes/losses into its consolidated financial statements.

At the end of 2020, we finalized tentative accounting values concerning consolidation of Showa Denko K.K. and Showa Denko Materials Co., Ltd. In comparison of the financial results for the first three quarters of 2020 and those of 2021, we used finalized values.

Notes

Important changes in accounting policies : not applicable

Comprehensive income :

Results for the year ended September 30, 2021 ¥31,025 million

Results for the year ended September 30, 2020 (¥70,548) million

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

(2) Financial position:

	Dec.31, 2020	Sep.30, 2021	Sep.30, 2021
Total assets	¥ 2,203,606	¥ 2,212,285	\$ 19,766,660
Total equity	718,080	792,632	7,082,134
Stockholders' equity ratio	% 18.4	% 22.3	% 22.3

(3) Dividends:

	2020	2021 Forecast
Q1 dividends per share (¥)	—	—
Q2 dividends per share (¥)	0.00	0.00
Q3 dividends per share (¥)	—	—
End of Term dividends per share (¥)	65.00	65.00
Annual dividends per share (¥)	65.00	65.00

II. Forecast of performance for the year ending December 31, 2021

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

	fiscal year	
	¥	\$
Net sales	1,400,000	12,508,935
Operating income	85,000	759,471
Ordinary income	82,000	732,666
Net income attributable to owners of the parent	(25,000)	(223,374)
Net income attributable to owners of the parent per share: Basic	(159.99)	(1.43)

*There is no change from the full-year 2021 performance forecast announced on August 3, 2021.

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.

"Net income attributable to owners of the parent per share" in the table of "Forecast of performance for the year ending December 31, 2021" was calculated with the number of shares after issuance of new shares by way of public offering and third party allotment which had been executed in September and October 2021 respectively.

Note

The U.S. dollar is valued at ¥111.92 throughout this statement for convenience only.

[Business Results and Financial Conditions]

1. Analysis of business results

(1) Summary

With regard to the global economy in the first three quarters of 2021 (January 1 – September 30), although it was stagnant due to the global restraint on economic activities caused by the pandemic of coronavirus disease 2019 (COVID-19), there was a sign of recovery. Manufacturing industries including the semiconductor-related industry, whose market remained strong, were in the process of recovery. As for the Japanese economy, although consumer spending kept bearish tendency, there was a sign of recovery in the corporate business sentiment due to an increase in export and business recovery centering on manufacturing industries.

As for the business environment of the Showa Denko Group, although the semiconductor-related industry remained strong, there were some uncertain factors such as continued spread of COVID-19, a global argument over policy on carbon-neutrality, and US-China trade friction. In addition, it is feared that a substantial rise in prices of raw materials and a reduction in car production caused by short supply of semiconductor integrated circuits may negatively affect our business performance.

The Showa Denko Group has been giving the highest priority to all stakeholders' safety and health including that of our customers, business acquaintances and employees, and implementing various measures to prevent further spread of COVID-19. To be specific, we are taking various measures including companywide introduction of teleworking. Especially in the head office, through thoroughgoing improvement in business process, the ratio of teleworking has been maintained at the level exceeding the target required by the Japanese government. The Group continues implementing measures which give highest priority to the security of employees' safety and prevention of infection of COVID-19, including grant of special leave when infection is suspected, restrictions on overseas and domestic business trip, and faithful practice of off-peak commuting through introduction of complete flextime. At the same time, in our production bases, we are making utmost efforts to fulfill our corporate social responsibility to continue providing our customers with products essential for infrastructural functions of society.

The Showa Denko Group set up its long-term vision and has been promoting its medium-term consolidated business plan "The TOP 2021" since 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 strengthen its earning power and reduce the range of fluctuation in income and enhance the value of the Group through successful execution of "The TOP 2021." Furthermore, aiming to realize integration of legal personalities of SDK and Showa Denko Materials Co., Ltd. (SDMC) in January 2023, the two companies realized substantial integration of the chain of command and corporate functions in July 2021, and will integrate management organizations in January 2022, which will be one year earlier than the original plan. In December 2020, SDK announced "Long-term Vision (2021-2030) for Newly Integrated Company," which aims to establish the basis of business growth far into the future through integration of SDK and SDMC. In terms of the meaning of the Newly Integrated Company's existence (purpose), SDK and SDMC will cooperatively seek to "change society

through the power of chemistry.” This includes contributing to the sustainable development of global society by creating functions required of the times as an advanced material partner. In addition, the Newly Integrated Company will strive to become “a company that can win the global competition” and “a company that contributes to a sustainable global society,” which are the two things the Company aims to achieve in terms of its ideal state in order to fulfill its purpose.

In the first three quarters of 2021, the Group recorded consolidated net sales of ¥1,051,696 million, a substantial increase of 65.4 % from the same period of the previous year. The sales in the Others segment significantly decreased due to unconsolidation of SHOKO CO., LTD. resulting from transfer of shares in the company. However, the sales in the Petrochemicals segment increased due to a rise in market prices of products. The sales in the Chemicals, Electronics, Inorganics, and Aluminum segments increased due to recovery of sales volumes from those in the same period of the previous year which were substantially lowered by the spread of COVID-19. The sales in the Showa Denko Materials segment significantly increased due to new consolidation of the segment throughout the first three quarters of the year. Operating income of the Group in the first three quarters of 2021 significantly increased by ¥99,278 million, to ¥71,926 million. Operating income in the Others segment decreased. However, operating income in the Petrochemicals increased due to a significant improvement in the raw naphtha price factor. Operating income in the Inorganics segment increased due to a significant increase in sales volumes due to a recovery of the demand for steel. Operating income in the Showa Denko Materials segment increased due to consolidation throughout the first three quarters of the year. Operating income in the Chemicals, Electronics, and Aluminum segments also increased. Ordinary income of the Group increased ¥122,569 million, to ¥73,289 million due to non-incurrence of the temporary cost of acquisition of shares in former Hitachi Chemical Company, Ltd., which took place in 2020, and increases in foreign exchange gain and equity in earnings of affiliates, despite an increase in interest expenses.

The Group recorded net loss attributable to owners of the parent of ¥10,330 million in the first three quarters of 2021, an improvement of ¥55,977 million from the same period of the previous year. We recorded extraordinary losses resulting from recording of expenses for execution of environmental measures amounting to ¥9 billion and an expenditure to cover the cost of structural reform related to the transfer of energy storage devices and systems business amounting to ¥30.1 billion.

(Unit: millions of yen)

	2020 1Q - 3Q (Jan.-Sept.)	2021 1Q - 3Q (Jan.-Sept.)	Increase/ decrease	2020 July-Sept.	2021 July-Sept.	Increase/ decrease
Sales	635,977	1,051,696	415,719	309,357	358,338	48,981
Operating income	-27,353	71,926	99,278	-1,558	24,359	25,917
Ordinary income	-49,280	73,289	122,569	-6,055	23,083	29,138
Net income attributable to owners of the parent	-66,307	-10,330	55,977	-11,732	3,082	14,813

At the end of 2020, we finalized tentative accounting values concerning consolidation of Showa Denko K.K. and Showa Denko Materials Co., Ltd. In comparison of the financial results for the first three quarters of 2020 and those of 2021, we used finalized values.

(2) A breakdown of net sales and operating income by segment (January 1 – September 30, 2021)

[Petrochemicals segment]

In the Petrochemicals segment, sales increased 41.5%, to ¥201,658 million. In our olefin business, sales increased due to an improvement in supply-demand balance in East Asia resulting from recovery of demand in China and a rise in prices of products including ethylene and propylene resulting from a rise in prices of raw materials. Sales of organic chemicals increased due to a rise in sales volumes of ethyl acetate and vinyl acetate as a result of rebound from the periodic shutdown maintenance of facilities to produce these products that took place in the first quarter of 2020, in addition to the effect of a significant rise in market prices of organic chemicals. As a result, the Petrochemicals segment recorded an operating income of ¥17,182 million, a significant increase of ¥15,899 million from the same period of the previous year, due to a significant improvement in the raw naphtha price factor and a rise in market prices of products.

(Unit: millions of yen)

	2020 1Q - 3Q (Jan.-Sept.)	2021 1Q - 3Q (Jan.-Sept.)	Increase/ decrease	2020 July-Sept.	2021 July-Sept.	Increase/ decrease
Sales	142,547	201,658	59,111	46,803	74,441	27,638
Operating income	1,284	17,182	15,899	4,950	5,492	542

[Chemicals segment]

In the Chemicals segment, sales increased 19.9% from the same period of the previous year, to ¥135,558 million. Sales of basic chemicals increased. Sales of liquefied ammonia increased due to an increase in shipment volumes. Sales of acrylonitrile increased due to tight supply-demand balance resulting from the impact of a hurricane in the US, a significant rise in product prices resulting from a substantial rise in raw material and fuel prices, and an increase in shipment volumes of products. Sales of chloroprene rubber increased due to an increase in export volumes. Sales of functional chemicals increased due to an increase in shipment volumes for Japanese market and export, despite the recent influence of a rise in prices of raw materials and a decrease in production of cars. Sales of industrial gases increased. Sales of electronic chemicals increased due to an increase in shipment volumes of products to respond to the demand from the booming semiconductor industry. Sales of coating materials increased due to an increase in shipment volumes. Operating income of the segment increased 76.2%, to ¥16,426 million.

(Unit: millions of yen)

	2020 1Q - 3Q (Jan.-Sept.)	2021 1Q - 3Q (Jan.-Sept.)	Increase/ decrease	2020 July-Sept.	2021 July-Sept.	Increase/ decrease
Sales	113,015	135,558	22,543	40,974	48,879	7,905
Operating income	9,324	16,426	7,101	4,304	5,814	1,510

[Electronics segment]

In the Electronics segment, sales increased 21.2% from the same period of the previous year, to ¥83,256 million. Sales of HD media increased due to an increase in shipment volumes of HD media for use in data centers and PCs. Sales of compound semiconductors increased due to an increase in export. Sales of lithium-ion battery (LIB) materials increased due to an increase in sales volumes of Showa Denko Packaging's aluminum laminate film (SPALF™) used as packaging material for LIBs built into cars, PCs, and mobile devices. As for SiC epitaxial wafers business, sales increased due to an increase in sales volumes resulting from an increase in demand and a start of long-term contracts to supply

SiC epitaxial wafers to plural power semiconductor-device manufacturers. Operating income of the segment increased 97.6%, to ¥9,486 million.

(Unit: millions of yen)

	2020 1Q - 3Q (Jan.-Sept.)	2021 1Q - 3Q (Jan.-Sept.)	Increase/ decrease	2020 July-Sept.	2021 July-Sept.	Increase/ decrease
Sales	68,721	83,256	14,535	24,147	33,909	9,762
Operating income	4,802	9,486	4,684	3,034	4,310	1,276

[Inorganics segment]

In the inorganics segment, sales increased 17.8% from the year-before period, to ¥72,241 million. Sales of graphite electrodes increased due to an increase in sales volumes caused by an increase in the global demand for steel, which started in the second half of 2020, despite a decline in market prices of graphite electrodes from the level of the year-before period. Sales of ceramics increased due to an increase in sales volumes of abrasives and fine ceramics for electronics. Operating income of the segment increased to ¥11,862 million, a major increase of ¥38,073 million from the year-before period.

(Unit: millions of yen)

	2020 1Q - 3Q (Jan.-Sept.)	2021 1Q - 3Q (Jan.-Sept.)	Increase/ decrease	2020 July-Sept.	2021 July-Sept.	Increase/ decrease
Sales	61,315	72,241	10,927	18,310	25,818	7,508
Operating income	-26,210	11,862	38,073	-3,305	5,565	8,871

[Aluminum segment]

In the Aluminum segment, sales increased 5.5% from the year-before period, to ¥61,660 million. Sales of aluminum specialty components increased due to an increase in demand for our products for use in machine tools and office automation equipment, despite a decrease in sales volumes of aluminum specialty components for use in automotive components resulting from a decrease in production of cars which started in the second half of the year. Sales of rolled products were at the same level of the year-before period due to an increase in sales volumes of high-purity aluminum foil for aluminum electrolytic capacitors, despite unconsolidation of rolled product business which took place in the third quarter of 2021. Sales of aluminum cans decreased due to unconsolidation of the aluminum can business which took place at the end of the first half of 2021. Operating income of the segment increased ¥6,732 million from the year-before period, to ¥6,454 million.

(Unit: millions of yen)

	2020 1Q - 3Q (Jan.-Sept.)	2021 1Q - 3Q (Jan.-Sept.)	Increase/ decrease	2020 July-Sept.	2021 July-Sept.	Increase/ decrease
Sales	58,438	61,660	3,222	19,590	13,948	-5,641
Operating income	-277	6,454	6,732	-72	833	906

[Showa Denko Materials segment]

We started to consolidate Showa Denko Materials Co., Ltd. and its subsidiaries in the second quarter of 2020, and therefore, we created a new segment for reporting, and started to incorporate sales figures and operating income of the new segment into SDK's consolidated financial statements at the beginning of the third quarter of 2020. The Showa Denko Materials segment recorded net sales of ¥481,565 million in the first three quarters of 2021, an increase of ¥336,725 million from the same period of the previous year. Sales of electronic materials including polishing materials for flattening semiconductor circuits

(CMP slurry) and materials for circuit boards including copper clad laminates remained strong due partly to the strong demand for semiconductors. Sales of mobility components including molded resins showed signs of recovery due to an increase in production of cars from the level of the year-before period, despite an influence of recent short supply of semiconductors. As a result, the segment recorded operating income of ¥18,573 million, an increase of ¥27,728 million from the same period of the previous year. Operating income of this segment includes amortization of the goodwill of the former Hitachi Chemical which was reckoned up as a result of acquisition of shares in former Hitachi Chemical and other losses amounting to about ¥25,400 million.

(Unit: millions of yen)

	2020 1Q - 3Q (Jan.-Sept.)	2021 1Q - 3Q (Jan.-Sept.)	Increase/ decrease	2020 July-Sept.	2021 July-Sept.	Increase/ decrease
Sales	144,840	481,565	336,725	144,840	161,386	16,546
Operating income	-9,155	18,573	27,728	-9,155	5,968	15,123

At the end of 2020, we finalized tentative accounting values concerning consolidation of Showa Denko K.K. and Showa Denko Materials Co., Ltd. In comparison of the financial results for the first three quarters of 2020 and those of 2021, we used finalized values.

[Others segment]

In the Others segment, sales significantly decreased 51.5% from the year-before period, to ¥38,854 million due mainly to the unconsolidation of SHOKO CO., LTD. resulting from the transfer of SDK's shares in SHOKO CO., LTD. which took place in this second quarter of 2021. Operating income of the segment decreased 91.7%, to ¥51 million.

(Unit: millions of yen)

	2020 1Q - 3Q (Jan.-Sept.)	2021 1Q - 3Q (Jan.-Sept.)	Increase/ decrease	2020 July-Sept.	2021 July-Sept.	Increase/ decrease
Sales	80,045	38,854	-41,192	24,485	5,207	-19,277
Operating income	617	51	-566	135	-55	-191

(3) Major steps taken or decided in the second quarter of 2021

[General]

- SDK Group challenges to realize carbon neutrality by 2050

In July 2021, SDK decided to work on realization of the entire Showa Denko Group's carbon neutrality by 2050 as an embodiment of "company that contributes to a sustainable global society," which is stated in the Showa Denko Group's long term vision as the "ideal state of newly integrated company." The Showa Denko Group has been working on countermeasures against climate change including its endorsement of TCFD (Task Force on Climate-Related Financial Disclosures) in 2019. Furthermore, in order to achieve the Group's carbon neutrality by 2050, the Group formulated a roadmap to promote GHG emission reduction measures including energy conservation, conversion of fuels and raw materials and improvement in energy efficiency, and set a midterm milestone for 2030 in which the Group would reduce GHG emission to the level 30% lower than that in 2013. The Showa Denko Group has been providing various products which contribute to sustainable development of global society. To contribute to sustainable development further, we will accelerate development of the Group's production technologies, and, with regard to our plastic chemical recycling business, we will develop new technologies taking carbon neutrality into consideration, and set 2030 as the target year for technology development. The Showa Denko Group will continue introducing environment-conscious production facilities and technologies, promoting environmental measures, and providing

products which support realization of recycling-oriented society. Thus the Showa Denko Group will contribute to realization of carbon neutral society, and aim to become a company that contributes to a sustainable global society.

- Issuance of new shares and secondary offering of shares
In the “Long-term Vision (2021-2030) for Newly Integrated Company” which was announced in December 2021, SDK defined its Electronics business centering on semiconductor-related materials, Mobility business centering on molded plastic rear door modules and lithium-ion-battery-related materials, and Life Science business centering on regenerative medicines as businesses that will lead growth of the Showa Denko Group. In order to support rapid growth of these businesses with sufficient investment fund, SDK increased its capital through public offering. The Group will use net proceeds raised this time as investment funds for production facilities for semiconductor-related materials in the Electronics business including CMP slurries, copper-clad laminates, photosensitive films, high-purity gases for electronics, and SiC epitaxial wafers for power semiconductors, strategic investment funds for strengthening functions of Packaging Solution Center which has semiconductor mounting equipment and semiconductor analyzers, investment funds for production facilities for Mobility businesses including molded plastic rear door modules and lithium-ion-battery-related materials, and investment funds for production facilities for Life Science businesses including regenerative medicines. The Group will take advantage of this capital raising to strengthen the financial flexibility which supports proactive strategic investments to realize a global top functional chemical manufacturer, and will pursue the enhancement of long-term corporate value. The amount of net capital increase raised through public offering and third-party allotment of this time was ¥82,383 million. For detail, please refer to the news releases related to the capital increase announced from August to October 2021.

[Electronics segment]

- Concluded long-term contract to supply SiC epitaxial wafers for power semiconductors
In May 2021, SDK concluded long-term contract with Infineon Technologies AG, an electronic device manufacturer providing highly efficient SiC-power-semiconductor based power devices for the global market, to provide Infineon with SiC epitaxial wafers for power semiconductors for plural years. Infineon Technologies decided to conclude this long-term contract because the company appreciated SDK’s SiC epitaxial wafers’ homogeneity in properties*1, low density of surface defects*2, and stable supply system. In addition, ROHM Co., Ltd. and Toshiba Electronic Devices & Storage Corporation, which are electronic device manufacturers providing highly efficient SiC-power-semiconductor based power devices for the global market, also concluded similar long term contracts with SDK in September 2021. As the largest independent manufacturer of SiC epitaxial wafers (estimated by SDK), and under a motto of “Best in Class,” the Showa Denko Group will continue coping with rapid expansion of the market for SiC epitaxial wafers and providing the market with high-performance and highly-reliable products, thereby contributing to the propagation of SiC power semiconductors which save energy with small power loss and less heat generation.

*1. “Homogeneity in properties” means that homogeneity in doping of nitrogen which determines physical property of wafer has been achieved. SiC power semiconductor is produced from SiC doped with nitrogen. SiC power semiconductor for high voltage requires homogeneous doping with small amount of nitrogen.

*2. “Low density of surface defects” means that the wafer has extremely small numbers of surface defects per square centimeter of wafer surface. If a surface defect exists, electricity flows through that surface defect, and the chip cannot be used as power device. On the other hand, SiC power device for large current requires large SiC chip. Therefore, low density of surface defects is necessary for achievement of high yields in production of power devices. SDK’s second generation high-grade SiC epitaxial wafer

(HGE-2G) has achieved 1/2 or less density of surface defects compared to that of the first-generation product (HGE).

[Aluminum segment]

- Installed additional lines to produce aluminum heat radiators for xEVs

In July 2021, SDK decided to double Oyama Plant's capacity to produce aluminum heat radiators for power modules*¹ to be installed in electrified vehicles in order to respond to an increase in demand for aluminum heat radiators for power modules. SDK has started installation of the additional production line whose startup of operation is scheduled to be at the beginning of 2022. Power modules (PMs) are usually installed into limited spaces of xEVs. Therefore, heat radiators for PMs must be small, be designed to allow various installation methods, and have high energy efficiency and large heat dissipation capacity. Aluminum heat radiators for PMs produced by SDK adopt direct vacuum brazing*² between insulated substrates and other parts including aluminum fins produced by SDK. Therefore, SDK's aluminum heat radiators for PMs are small, have large heat dissipation capacity, and allow free design of coolant pipes, thereby having a multiplicity of uses. Backed by the global movement toward realization of carbon neutral society, the automobile industry is accelerating its shift toward xEVs. SDK will develop and produce smaller high-performance aluminum heat radiators for PMs on the basis of its long-time fostered aluminum-alloy design technology, aluminum processing technology and power-module evaluation technology, and provide customers with solutions for their problems, thereby expanding its aluminum specialty components business.

*1. Power module (PM) is a part of electronic device. It consists of several power semiconductor chips, and supplies electronic power to an electronic device. PM with good efficiency improves xEVs' performance.

*2. Vacuum brazing joints parts without melting basic materials. Vacuum brazing is suitable for jointing of precision parts because inside of the furnace is vacuum and fine control of inside temperature is possible.

[Showa Denko Materials segment]

- Showa Denko Materials started mass production of "MCL-E-795G," an advanced functional laminate material for printed wiring boards with high packaging reliability
In October 2021, Showa Denko Materials Co., Ltd., a consolidated subsidiary of SDK, started mass production of the "MCL-E-795G" series, an advanced functional laminate material for printed wiring boards. MCL-E-795G achieves high packaging reliability such as low warpage and high heat resistance required for semiconductor package substrates used for large servers in data centers and high-performance computing (HPC)*.

*High-performance computing refers to the use of a high-performance computer system to process enormous amounts of data and perform complex calculations at high speeds.

- Announcement regarding transfer of energy storage devices and systems business

In July 2021, Showa Denko Materials Co., Ltd. (SDMC), which is a consolidated subsidiary of SDK, determined that: (i) SDMC shall have a newly established, wholly owned subsidiary of it named Energy Storage Devices Spin-Off Preparation Co., Ltd. (hereinafter referred to as "NewCo") succeed the energy storage devices and systems business in which SDMC is engaged at its Saitama Works and Nabari Works through an absorption-type company split (hereinafter referred to as the "Company Split"), thereafter, (ii) SDMC shall transfer all shares of NewCo and the directly or indirectly owned shares of Energy System Service Japan Co., Ltd., CSB Energy Technology Co., Ltd., Siam Magi Co., Ltd., Thai Energy Storage Technology Public Company Limited, Thai Nonferrous Metal Co., Ltd., 3K Products Company Limited, and Power Plas Company Limited to Sustainable Battery Solutions, Inc., operated by Sustainable Battery Holdings, Inc. whose largest shareholders are the funds served by Advantage Partners Inc. We have scheduled to close all transactions concerning this issue on December 1, 2021. For detail of this topic, please

refer to the relevant news release announced on July 8, 2021.

2. Consolidated financial conditions as of September 30, 2021

Total assets at September 30, 2021 amounted to ¥2,212,285 million, an increase of ¥8,679 million from the level at December 31, 2020. Total assets increased due partly to increases in notes and accounts receivable-trade and inventories resulting from an increase in sales volumes and rises in product prices and raw material prices, and an increase in cash and deposits resulting from receiving of cash as proceeds from public stock offering. Total liabilities decreased ¥65,873 million, to ¥1,419,652 million, due partly to a significant decrease in interest bearing debt, despite and increase in notes and accounts payable-trade. Net assets at the end of the first three quarters of 2021 increased ¥74,552 million, to ¥792,632 million from the level at December 31, 2020, due mainly to an increase in capital and capital surplus through public offering aiming to accelerate capital investment in semiconductor related materials where the demand is rapidly increasing, and foreign currency translation adjustment.

3. Performance forecast

The Group's performance forecast for 2021 is not changed from that announced on August 3, 2021, which is as in the table given below. Regarding the assumptions for the performance forecast, please refer to the news release "Showa Denko Revises Forecast of Consolidated Performance and Records Extraordinary Loss" announced on August 3, 2021.

(Unit: millions of yen)

	Net sales	Operating income	Ordinary income	Net income attributable to owners of the parent
Forecast of consolidated results for full-year 2021	1,400,000	85,000	82,000	-25,000

Consolidated Balance Sheets

(¥ in millions, US\$ in thousands)

	Dec. 31, 2020	Sep. 30, 2021	Sep. 30, 2021
Assets	¥	¥	\$
Current assets			
Cash and deposits	198,982	247,285	2,209,479
Notes and accounts receivable-trade	271,628	281,956	2,519,265
Merchandise and finished goods	93,947	105,092	938,993
Work in process	28,383	34,209	305,657
Raw materials and supplies	67,877	81,928	732,025
Other	62,917	58,705	524,525
Allowance for doubtful accounts	(1,092)	(916)	(8,186)
Total current assets	722,644	808,259	7,221,757
Noncurrent assets			
Property, plant and equipment			
Buildings and structures, net	142,300	140,456	1,254,965
Machinery, equipment and vehicles, net	222,036	208,095	1,859,315
Land	264,589	247,728	2,213,434
Other, net	98,194	95,280	851,325
Total property, plant and equipment	727,119	691,558	6,179,039
Intangible assets			
Goodwill	359,200	323,222	2,887,970
Other	239,244	222,346	1,986,652
Total intangible assets	598,443	545,568	4,874,622
Investments and other assets			
Investment securities	106,408	116,416	1,040,174
Other	56,738	50,975	455,458
Allowance for doubtful accounts	(7,747)	(491)	(4,391)
Total investments and other assets	155,399	166,900	1,491,241
Total noncurrent assets	1,480,962	1,404,026	12,544,903
Total assets	2,203,606	2,212,285	19,766,660
Liabilities			
Current liabilities			
Notes and accounts payable-trade	164,356	182,389	1,629,634
Short-term loans payable	62,645	69,257	618,812
Current portion of long-term loans payable	31,387	51,936	464,047
Commercial papers	10,000	30,000	268,049
Current portion of bonds	25,000	29,998	268,031
Provision	10,604	20,437	182,600
Other	108,078	108,500	969,445
Total current liabilities	412,071	492,517	4,400,617
Noncurrent liabilities			
Bonds payable	66,929	46,942	419,425
Long-term loans payable	839,436	718,522	6,419,958
Provision	4,026	1,081	9,655
Net defined benefit liability	24,750	22,068	197,178
Other	138,314	138,523	1,237,694
Total noncurrent liabilities	1,073,455	927,135	8,283,910
Total liabilities	1,485,526	1,419,652	12,684,526
Net assets			
Shareholders' equity			
Capital stock	140,564	179,163	1,600,813
Capital surplus	78,190	116,789	1,043,506
Retained earnings	165,572	145,052	1,296,033
Treasury stock	(11,657)	(11,654)	(104,130)
Total shareholders' equity	372,669	429,350	3,836,222
Accumulated other comprehensive income			
Valuation difference on available-for-sale securities	3,728	7,584	67,760
Deferred gains or losses on hedges	908	1,990	17,782
Revaluation reserve for land	29,034	28,929	258,481
Foreign currency translation adjustment	(506)	23,774	212,415
Remeasurements of defined benefit plans	128	674	6,020
Total accumulated other comprehensive income	33,292	62,950	562,457
Non-controlling interests	312,119	300,332	2,683,455
Total net assets	718,080	792,632	7,082,134
Total liabilities and net assets	2,203,606	2,212,285	19,766,660

Consolidated Statements of Income

(¥ in millions, US\$ in thousands)

	Results for the first three quarters (Jan. 1-Sep. 30)		
	2020	2021	2021
	¥	¥	\$
Net sales	635,977	1,051,696	9,396,854
Cost of sales	549,507	793,226	7,087,442
Gross profit	86,470	258,469	2,309,412
Selling, general and administrative expenses	113,823	186,543	1,666,757
Operating income (loss)	(27,353)	71,926	642,655
Non-operating income			
Interest income	599	500	4,471
Dividends income	895	1,041	9,299
Equity in earnings of affiliates	465	4,718	42,153
Foreign exchange gains	—	3,830	34,225
Miscellaneous income	3,073	4,306	38,475
Total non-operating income	5,032	14,395	128,623
Non-operating expenses			
Interest expenses	4,191	7,770	69,425
Financing expenses	16,075	—	—
Miscellaneous expenses	6,692	5,262	47,018
Total non-operating expenses	26,959	13,032	116,443
Ordinary income (loss)	(49,280)	73,289	654,834
Extraordinary income			
Gain on sale of businesses	—	9,432	84,270
Other	2,490	2,880	25,729
Total extraordinary income	2,490	12,311	109,999
Extraordinary loss			
Loss on sales and retirement of noncurrent assets	2,231	2,452	21,912
Business structuring expenses	5,652	32,767	292,769
Other	4,258	35,442	316,677
Total extraordinary losses	12,141	70,662	631,358
Profit (loss) before income taxes	(58,931)	14,938	133,475
Income taxes	288	14,119	126,154
Net income (loss)	(59,219)	819	7,320
Net income attributable to non-controlling interests	7,088	11,149	99,619
Net loss attributable to owners of the parent	(66,307)	(10,330)	(92,299)

Consolidated Statements of Comprehensive Income

(¥ in millions, US\$ in thousands)

	Results for the first three quarters (Jan.1-Sep.30)		
	2020	2021	2021
Net income (loss)	¥ (59,219)	¥ 819	\$ 7,320
Other comprehensive income:			
Valuation difference on available-for-sale securities	(5,566)	3,827	34,192
Deferred gains or losses on hedges	(199)	1,082	9,668
Foreign currency translation adjustments	(5,654)	24,134	215,636
Remeasurements of defined benefit plans, net of tax	135	549	4,903
Share of other comprehensive income of entities accounted for using equity method	(45)	614	5,487
Total other comprehensive income	(11,329)	30,206	269,886
Comprehensive income	(70,548)	31,025	277,206
(Comprehensive income attributable to)			
Comprehensive income attributable to owners of the parent	(77,395)	19,433	173,632
Comprehensive income attributable to non-controlling interests	6,847	11,592	103,575

(Reference)

SEGMENT INFORMATION

Information about sales and operating income :

	Millions of yen								
	Petrochemicals	Chemicals	Electronics	Inorganics	Aluminum	Showa Denko Materials	Others	Elimination	Consolidated
Sales									
Outside customers	¥136,316	¥101,343	¥67,876	¥57,017	¥53,685	¥144,837	¥74,905	¥-	¥635,977
Inter-segment	6,231	11,673	845	4,298	4,753	3	5,141	(32,943)	-
Total	142,547	113,015	68,721	61,315	58,438	144,840	80,045	(32,943)	635,977
Operating income (loss)	¥1,284	¥9,324	¥4,802	(¥26,210)	(¥277)	(¥9,155)	¥617	(¥7,736)	(¥27,353)

	Millions of yen								
	Petrochemicals	Chemicals	Electronics	Inorganics	Aluminum	Showa Denko Materials	Others	Elimination	Consolidated
Sales									
Outside customers	¥197,253	¥126,918	¥82,437	¥69,470	¥58,477	¥481,369	¥35,771	¥-	¥1,051,696
Inter-segment	4,405	8,639	819	2,771	3,183	196	3,083	(23,096)	-
Total	201,658	135,558	83,256	72,241	61,660	481,565	38,854	(23,096)	1,051,696
Operating income (loss)	¥17,182	¥16,426	¥9,486	¥11,862	¥6,454	¥18,573	¥51	(¥8,109)	¥71,926

	Thousands of U.S. dollars								
	Petrochemicals	Chemicals	Electronics	Inorganics	Aluminum	Showa Denko Materials	Others	Elimination	Consolidated
Sales									
Outside customers	\$1,762,445	\$1,134,011	\$736,571	\$620,715	\$522,489	\$4,301,010	\$319,614	\$-	\$9,396,854
Inter-segment	39,357	77,193	7,318	24,758	28,440	1,751	27,544	(206,361)	-
Total	1,801,801	1,211,204	743,888	645,473	550,929	4,302,761	347,158	(206,361)	9,396,854
Operating income (loss)	\$153,525	\$146,761	\$84,757	\$105,990	\$57,668	\$165,951	\$456	(\$72,454)	\$642,655