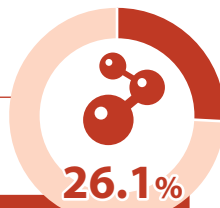




Business Segments

Petrochemicals



Consolidated Business Results (Millions of yen)

	2018	2019	Increase/ decrease	Rate of change
Sales	268,879	250,678	-18,201	-6.8%
Operating Income	20,333	17,201	-3,132	-15.4%

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. In 2020, we will start commercial production at the Oita Complex and sale of 1,3-BG, which is an odorless ingredient for cosmetics to be used as a moisturizing component, by utilizing ethylene produced in the Oita Complex.

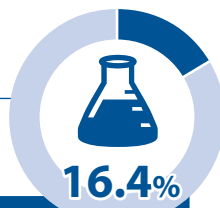
Showa Denko is expanding business to produce acetylic derivatives by taking advantage of the Company's advanced catalyst technology.

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). For unsaturated polyester resin and vinyl ester resin, we have decided to consolidate domestic production bases to streamline our capacity to produce these materials.

Coating Materials Department was organized in July 2019 following our acquisition of Industrielack AG (ILAG), a nonstick coating chemicals manufacturer in Switzerland. This department provides nonstick coating chemicals, which are materials for surfaces of cookware, home appliances, cars and industrial equipment that prevent sticking and staining.

Chemicals



Consolidated Business Results (Millions of yen)

	2018	2019	Increase/ decrease	Rate of change
Sales	156,541	157,480	939	0.6%
Operating Income	17,393	13,656	-3,737	-21.5%

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 wide-ranging industries. The Division especially contributes to a stable supply of food and food safety by providing 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,

Electronics



Consolidated Business Results (Millions of yen)

	2018	2019	Increase/ decrease	Rate of change
Sales	111,912	96,445	-15,467	-13.8%
Operating Income	13,557	4,880	-8,677	-64.0%

The Device Solutions Division provides data-recording media for hard disk drives and SiC epitaxial wafers for power devices. The Showa Denko Group is the largest independent HD media supplier in the world, and the Device Solutions Division conducts HD media business with production bases in Japan, Taiwan, Singapore, and Malaysia. This division provides world-class high-quality HD media 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.

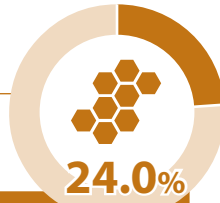
SiC epitaxial wafers are used as materials for next-generation power semiconductors, which are expected to contribute to energy conservation. The wafers are being increasingly used in quick chargers for EVs, photovoltaic generation, and servers. We are expanding our capacity to produce SiC epi-wafers and improving their quality in order to respond to fast growth of the market for power control units for EVs.

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 VGCF™ unique anode and cathode additive which prolongs the life of batteries, and SPALF™ aluminum laminated film for LIBs installed in smartphones, tablets, and EVs.

Inorganics



Consolidated Business Results (Millions of yen)

	2018	2019	Increase/ decrease	Rate of change
Sales	266,149	230,135	-36,014	-13.5%
Operating Income	132,445	89,256	-43,189	-32.6%

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 optimize the Showa Denko Group's capacity to produce graphite electrodes, invest in production facilities in order to improve product quality, and realize the effect of business integration as soon as possible. Thus the Division will improve profitability of this segment. The Division will provide 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)

	2018	2019	Increase/ decrease	Rate of change
Sales	108,254	97,542	-10,712	-9.9%
Operating Income	4,942	1,746	-3,195	-64.7%

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. In 2019, we streamlined our capacity to produce aluminum cans in Japan, where the market for cans has matured. On the other hand, in July 2020, we will establish the third base in Vietnam to produce aluminum cans in the suburbs of Ho Chi Minh City, in order to respond rapid growth of the Vietnamese market. We will expand our aluminum can business in the ASEAN market by establishing new business bases.

Others



Consolidated Business Results (Millions of yen)

	2018	2019	Increase/ decrease	Rate of change
Sales	137,324	126,163	-11,161	-8.1%
Operating Income	1,734	1,819	85	4.9%

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.

For details of business results, please see the Management's Discussion and Analysis (p. 19).