

Review of Operations and Strategies by Segment

Water Treatment Chemicals

We aim to increase profitability by transforming our business model and strengthening our overseas business base

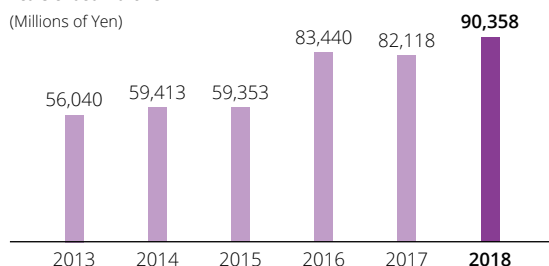


Yoshio Yamada

Managing Director
General Manager of Sales Division I
and in charge of the chemicals business

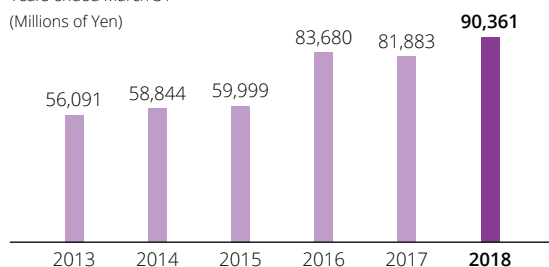
Orders

Years ended March 31
(Millions of Yen)



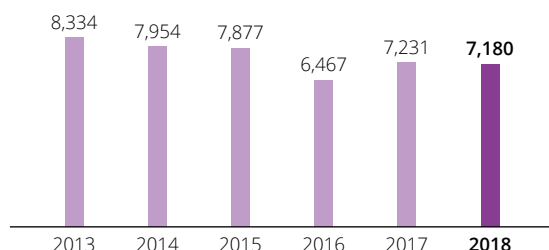
Sales

Years ended March 31
(Millions of Yen)



Operating Income

Years ended March 31
(Millions of Yen)



Overview of the Fiscal Year Ended March 31, 2018

Orders and sales in Japan both increased year on year, as capacity utilization recovered at manufacturing customers' plants. By product, orders and sales increased for our core products, namely boiler water treatment chemicals, cooling water treatment chemicals, process treatment chemicals for paper and pulp, and process treatment chemicals for iron and steel. Overseas, we saw a significant increase in both orders and sales as sales increased in Asia, Europe, North America, and other areas while new consolidations in the form of an acquisition in the United States and the conversion of a South Korean equity-method affiliate into a subsidiary also contributed.

Operating income decreased slightly year on year, reflecting an increase in selling, general and administrative expenses caused by increases in personnel expenses due to the active development of overseas businesses and IT-related expenses, despite the effect of the increase in sales.

Initiatives under the New Medium-Term Management Plan, MVP-22

From Water Treatment Chemicals to Comprehensive Solution Proposals

In Japan, the Kurita Group has contributed to stable operation of customers' utility facilities and improved productivity in their production processes through water treatment. Now customers' needs are becoming more sophisticated for energy saving and environmental impact reduction. Moreover, looking at the medium- to long-term horizon, in Japan we expect to see advances in production efficiency

in our customers' manufacturing lines, and the Japanese water treatment chemicals market seems unlikely to expand. Amid this situation, it is becoming difficult to demonstrate the Group's strengths through the simple application of various water treatment chemicals to customers as we have in the past.

The Kurita Group will therefore serve as a business partner for its customers, comprehending their problems from various water-treatment perspectives and to develop comprehensive solutions that integrate the Group's strengths and functions to provide optimal overall water treatment for customers' plants. In April 2017 in Japan, we aggregated the organizations that were previously separated under the Water Treatment Chemicals and Water Treatment Facilities businesses and integrated the operations of both businesses along with the water treatment chemicals and maintenance functions. Then, in July 2017 we unified our sales contact point for customers to create an organization that could meet all customers' needs through a single point. This has enabled us to provide solutions aligned to the needs of our large-scale customers. We are starting to see several results from this, for example in one instance we realized overall water savings for a customers' plant by collaborating with the maintenance department to install a system for reclaiming wastewater and reusing it to supply a cooling tower; while in another instance we helped the customer to reduce their steam usage by applying a treatment chemical that improved the efficiency of their heat usage in the drying process of a paper manufacturing line. We will now look to accelerate these initiatives and develop comprehensive solutions as a service contract business.

We are also working to develop services that use state-of-the-art technology to realize stable operation and reduced running costs at customers' facilities, such as using IT to perform constant, remote measurement of the effect of water treatment chemicals and equipment, then automatically injecting water treatment chemicals and managing their concentrations correctly.

Accelerating Expansion in the Overseas Business

The Kurita Group has been using M&A in regions where it would be difficult to achieve autonomous growth in a short time-frame, having first identified promising areas for business expansion with the application of the Group's technologies. In January 2017, we made a subsidiary of Fremont Industries, LLC, a water treatment chemical manufacturer and seller, headquartered in the Midwestern U.S. state of Minnesota. Then, in November, we made a subsidiary of South Korean former equity-method affiliate Hansu Co., Ltd., which manufactures and sells water treatment chemicals in South Korea. We will continue to seek M&A opportunities in the United States and Asia with a view to acquiring business bases in areas where the Kurita Group's business has potential to grow and acquiring attractive technologies and products that the Group can develop. Furthermore, we will increase profitability in our overseas business by sharing technologies and knowledge from each region throughout the Group, enabling us to provide high-value-added services using Kurita's unique products and technologies and efficient maintenance services using sensing technologies.

Topic

"S.sensing Opti" for Real-Time Analysis of Water Quality Status

Kurita is focused on developing services that use IT and sensing technologies to help customers realize stable operation of facilities, improved productivity inside plants, and reduced environmental impact. As part of these efforts, since 2013 we have been developing the "S.sensing" sensor technology-based water treatment management services, and we have recently developed "S.sensing Opti" as a new service for cooling water facilities.

The service performs automatic real-time analysis of the water quality status of cooling water, including treatment chemical concentration,

based on data such as the volume and quality of the water used in the cooling water facility and the facility's operational status. This enables more appropriate water quality control and treatment chemical dosing than before, realizing stable operation of the cooling water facility and visualization of the water treatment effect.

Moreover, "S.sensing Opti" includes the "S.sensing WEB" service for centralized management of treatment chemical SDSs* and water quality reports. This reduces the workload for facility managers by enabling them to confirm the facility's operation status, remaining amount of treatment chemicals, analysis results, and other information on the Internet in real time.

* SDS: Safety Data Sheet; A document detailing the components and amounts of a treatment chemical and their hazard and toxicity information to enable safe handling of the treatment chemical.



S.sensing Opti's online display

Review of Operations and Strategies by Segment

Water Treatment Facilities

We will create new service proposals using
our knowledge and technology from
the ultrapure water supply business

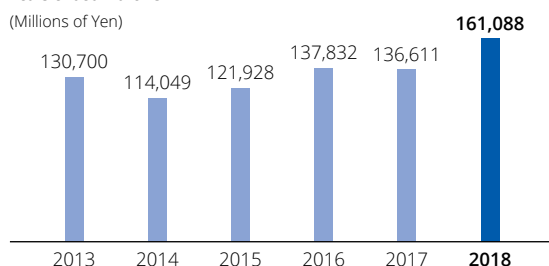


Toshitaka Kodama

Managing Director
General Manager of Sales Division II
and in charge of the facilities business

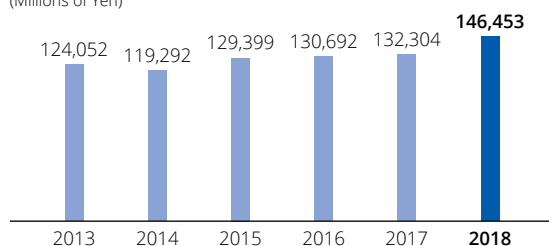
Orders

Years ended March 31
(Millions of Yen)



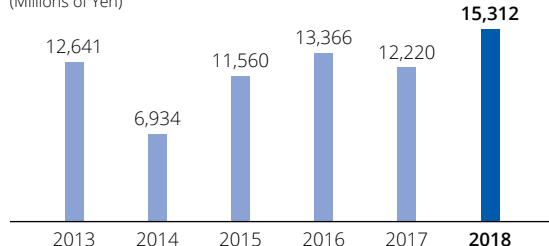
Sales

Years ended March 31
(Millions of Yen)



Operating Income

Years ended March 31
(Millions of Yen)



Overview of the Fiscal Year Ended March 31, 2018

With regard to orders, in the electronics industry in Japan the Kurita Group received orders for large water treatment facility projects for semiconductors and electronic components. In maintenance services, we received increased orders associated with expansion and remodeling projects as customers' plants increased their capacity utilization. For general industry in Japan, maintenance service orders increased for response to customers' aging plants and demand for modification and reinforcement. Moreover, while orders for water treatment facilities for general industry and electric power generation decreased, orders for soil remediation remained unchanged at a high level. Overseas, we saw dramatic growth in orders for large-scale water treatment facility projects for LCD and semiconductor manufacturers in China and South Korea. As a result of these trends, orders for the segment overall increased significantly year on year.

Turning to net sales, sales for the electronics industry in Japan increased dramatically. This mainly reflected progress in construction of large water treatment facility projects and growth in maintenance services, despite a decline due to the impact of contract changes with a certain customer in the ultrapure water supply business. Sales for general industry in Japan increased as sales of water treatment facilities mainly for the electric power sector rose, despite a fallback from posting sales of large soil remediation projects in the previous fiscal year. Overseas, sales increased with progress on construction of water treatment facilities for LCD and semiconductor manufacturers in China and South Korea. As a result, segment net sales increased significantly year on year.

Operating income increased despite a decline in sales in the ultrapure water supply business, due to the effects of sales growth in other businesses and an improved cost of sales ratio.

Initiatives under the New Medium-Term Management Plan, MVP-22

From the Ultrapure Water Supply Business to Comprehensive Solution Proposals

Recently, companies are being asked to take action on social problems with a global scale, such as resolving water resource issues, reducing waste, realizing use of sustainable energy, and advancing production technology. As an environmental company, the Kurita Group promotes initiatives such as energy saving, waste reduction, production technology advancement, and wastewater recycling, through the overall development of water treatment chemicals, maintenance services, water treatment facilities and ultrapure water supply business.

In particular, in the ultrapure water supply business, which involves operating water treatment facilities inside customers' plants, we have worked closely each day with our customers for over 15 years to accumulate knowledge and skills regarding safe, secure, efficient operations based on their manufacturing processes. Now, in addition to this experience, we will make use of the IoT and AI to optimize our operations through predictive detection and develop comprehensive solutions over an even wider range, including automated control.

Global Business Expansion

For many years, the Kurita Group has been delivering large-scale water treatment facilities for LCD and semiconductor manufacturing plants in East Asia, such as China, South Korea, and Taiwan. Over this time, we have worked to build an efficient production system throughout our supply chain, including suppliers and subcontractors, and recently we are seeing benefits in the form of improved profitability.

The electronics industry in East Asia is a market that uses large quantities of high-added-value water, which is the Kurita Group's specialty, and it is expected to expand over the medium to long term. We have developed close relationships with customers in this market, not only by constructing plants for them, but also by proposing comprehensive solutions to lower their plant operating costs. We will use these to drive the Group's medium- to long-term growth.

Opening Up New Markets

Through its business, the Kurita Group helps to realize renewable energy use and solve social issues such as remediation of contaminated soil and groundwater. In particular, we have focused on biomass power generation using biomass as fuel, aiming to commercialize it. With regard to soil and groundwater remediation, we are addressing the issue of "brownfields" through internal efforts and in collaboration with partner companies to establish a total support system from analysis of the contamination status through to remediation, and a land revival plan. These efforts contribute to reducing the burden on our customers and resolving a social issue.

Topic

Using Waste as a Resource and Realizing Effective Energy Use with the KURITA DRANCO PROCESS™

Kurita has been pursuing various initiatives related to biomass energy, including dry methane fermentation technology. The KURITA DRANCO PROCESS™ technology for dry methane fermentation enables stable recovery of biogas using diverse waste products as raw material, including household food waste, general waste such as paper, animal and vegetable waste, and industrial waste such as livestock manure. The system has adopted a vertical arrangement for the fermentation reactor to save space and does not emit wastewater since the residue from fermentation has low water content.

In June 2018, a dry methane fermentation facility using KURITA DRANCO PROCESS™ was completed as part of the Demonstration of Self-Sustaining Regional Biomass Energy

Systems sponsored by the New Energy and Industrial Technology Development Organization (NEDO) and carried out by Fuji Clean Co., Ltd. The project produces biogas in Japan's largest single dry methane fermentation reactor at 3,000 m³ and makes effective use of energy by supplying both heat and electricity for Fuji Clean Co., Ltd. Currently, the project has started test operations towards a trial operation from October 2018.



Exterior view of Fuji Clean Co., Ltd.'s methane fermentation facility