Chapter 3

Business Environment and Strategies

EDMI office in Australia

Global Business Strategies

How New Seng
Chief Executive Officer
EDMI Limited

Driving global growth against the backdrop of worldwide increased demand for smart meters

Since its establishment in 1978, EDMI has been renowned for delivering high quality products and services globally. In more recent years, EDMI has expanded its footprint by adapting its technology to suit a range of markets, capturing significant business in Oceania, the UK and the Middle East.

As the number of smart meters rolled out year on year continues to increase globally, EDMI is working closely with OSAKI ELECTRIC to scale the reliable delivery of products and services to maintain EDMI's differentiated high quality offering.

As a trusted supplier to many of the world's leading utility businesses, EDMI is continuing to expand the scope of its customer offering, including the delivery of end-to-end solutions and services, and be a company with sustainable recurring profit.

Financial Results in Fiscal 2018

Despite success in sales expansion in smart meter supply to Australia and new business in the Middle East, fiscal 2018 business resulted in an increase in revenue but a decline in profit compared with fiscal 2017 due to an increase in costs associated with delays in production caused by a shortage of some electronic components.

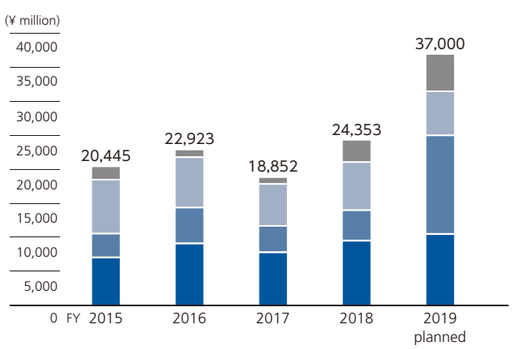
Profit in the fourth quarter was improved substantially by taking measures against several challenges in production across Group companies in the period.

5-Year Mid-term Management Plan and Actions for Fiscal 2019

Prior investment was made for the smart meter project with a central focus on the UK market, and full scale supply for the UK is expected to start from fiscal 2019. In Oceania and the Middle East, the demand for smart meters along with metering systems is increasing, which gives more projects and sales opportunities to improve profitability. Responding to these increased demands, OSAKI aims to become a truly global corporate group in which revenue from business outside of Japan reaches nearly half of consolidated financial results through building of a resilient operational and development structure across Group companies.

In fiscal 2019, the first year of taking measures under the aforementioned strategy, supply agreements have been signed with major clients in Oceania, the UK and the Middle East at a steady rate. This is expected to result in an increase in profit and revenue compared with fiscal 2018, which will complement a dip in demand in the Japanese market.

Consolidated sales outside Japan



Strategies by Region

Oceania

The installation of smart meters in Oceania is actively continuing to ensure efficient energy usage and cost control. Leveraging its position as a market leader in the region, EDMI is expanding the provision of advanced energy solutions to other regions.

Based on the 2012 public release of "Power of Choice (PoC)," government-led reforms to open the electric power market and electricity prices, the installation of smart meters became mandatory in December 2017 for the five states in East Australia where the population is concentrated. PoC reforms increase the demand for the provision of beneficial services to consumers as well as improvement of electric companies' operation leveraging smart meters. In responding to this, EDMI started to provide cloud-based service along with smart meters. The company was awarded the first major contract in response to the PoC reform in the country in 2015 and subsequent contracts thereafter with other major customers.

In New Zealand, smart meters gained early recognition following projects to enhance the operation and management of transmission and distribution grids. EDMI has earned a market share of around 75% in New Zealand through the delivery of more than 1 million smart meters, and it cements the position as a market leader in the country. For the coming replacement demand of smart meters from 2020, EDMI is offering value-added cloud-based service to its customers. EDMI, as a market leader in Oceania, is well placed to provide value-added smart metering solutions.

Concept image of EDMI's end-to-end solutions

Europe

EDMI made an early entry into a residential smart meter rollout project in the UK. Based on the experience gained through this project, EDMI is driving forward to expand its market in European regions as an end-to-end solutions provider.

Smart Grid conversion is underway in Europe to adopt renewable energy for a low-carbon society. The smart meter is considered as a critical device to improve energy consumption efficiency and increase renewable energy supply, and its installation is being accelerated in households and companies.

Under this trend, EDMI is taking part in the residential smart meter rollout in the UK. The project adapts an energy management solution through communications hubs and smart meters for electricity and gas. EDMI has been contracted for the supply of 10 million communications hubs, which is equivalent to one-third of market share, and is looking to expand its share of smart meters with a target to achieve at least a 20% market share.

Supply will start in full scale from the second half of fiscal 2019, and it is expected to make a significant contribution to company performance over several years.

Other Regions

In responding to the increasing demand for electricity in emerging countries due to economic growth, EDMI is offering various solutions adapted to the needs of each market.

The needs in emerging markets such as Asia, the Middle East and Africa differ substantially. With the selection and concentration of high value-added projects, EDMI focuses on improving profitability in these markets holistically. Strengthening of bundled sales of smart meters and system solutions is one of the strategies. In fiscal 2018, EDMI signed a major contract in the Middle East. Also, various services are provided to respective customers in response to their needs, such as prepayment solutions to secure bill collection and cluster metering solutions with a function to prevent tampering.

Message from EDMI executive

With the growth in distributed energy generation and battery technology, smart meters are playing a more important role than ever before. EDMI has developed end-to-end smart metering solutions leveraging cloud-based software to assist digital utility customers in overcoming the obstacles faced in a distributed generation energy world.

These solutions deliver high value to the customer and secure EDMI a larger piece of the pie of utility infrastructure spending. An example of value delivered by EDMI cloud solutions is the automated demand management used by EDMI customers to optimise demand during peak pricing periods. EDMI continues to work closely with customers to develop world-class leading solutions to support the resolution of energy utility challenges in today's complex market.

Andrew Thomas
Chief Marketing Officer
EDMI Limited

Japan Business Strategies

Takehiko Ota
Director
Head of Domestic Sales Division

Co-create new value with our customers

OSAKI ELECTRIC provides customers in Japan with value-added services to tackle social issues such as electric power and other social infrastructures.

OSAKI has contributed to the optimisation of power consumption by measuring and controlling power usage. It is our core technology that measures energy, providing data which indicates when, where, how much and for what purpose the power was consumed in order to control power usage.

The power industry is facing changes in the business environment. These changes include laws and regulations, advancement in renewable power technologies, and the expanding EV and mobile power supply markets. These are just a few of the changes our society faces.

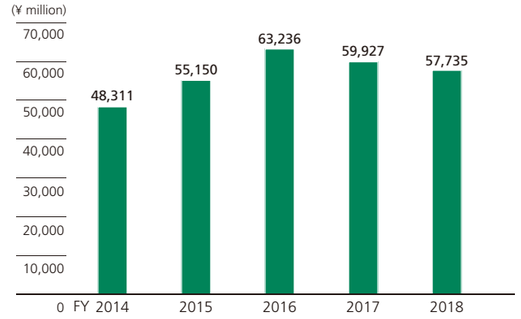
OSAKI's smart meters and energy management services are based on measuring and control technologies. By combining our legacy technology with new technologies such as IoT and AI, we are providing solutions for power-saving and labor-saving, which are issues faced by Japan's social infrastructure. We believe that through collaboration with our customers and prospective partners, we can contribute to the society of the future.

With changes to society and the environment come new challenges and problems. We are collaborating with customers and partners to co-create new value, so that together, we can provide solutions to such challenges.

Fiscal 2018 Financial Results

In Japan, despite high demand for smart meters and the completion of inventory adjustment by electric power companies in the latter half of the fiscal year, consolidated sales fell short of the previous year's outstanding results. The solutions business showed solid growth. Energy management systems have been employed at over 3,000 buildings, factories and shops as of the end of fiscal 2018. We launched a "smart metering system," a new automated meter reading service which reduces labor requirements in the building maintenance industry.

Net sales in Japan



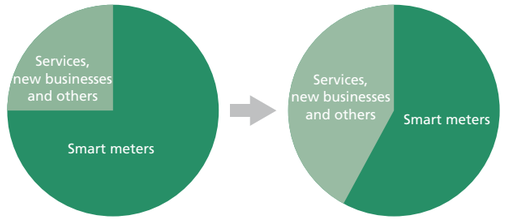
Fiscal 2019 Business Strategy

It is expected that smart meters will be installed in all households and buildings by fiscal 2024. Demand for smart meters in Japan will decrease accordingly, until the next cycle of replacement demand. Fiscal 2019 projects a decline in profitability in line with decreasing demand in addition to price competition. In the solutions business, OSAKI ELECTRIC is introducing power-control services with AI and expanding service lineups for automated metering.

Mid-term Management Plan

Sales of smart meters played a part in approximately 75% of Japanese sales. We will expand the solutions business and gain customers in various industries to attain 40% of sales from businesses other than smart meters by fiscal 2021. We will proceed with the development of next-generation smart meters corresponding with plans for new energy infrastructures.

Japan: Sales breakdown by products and services



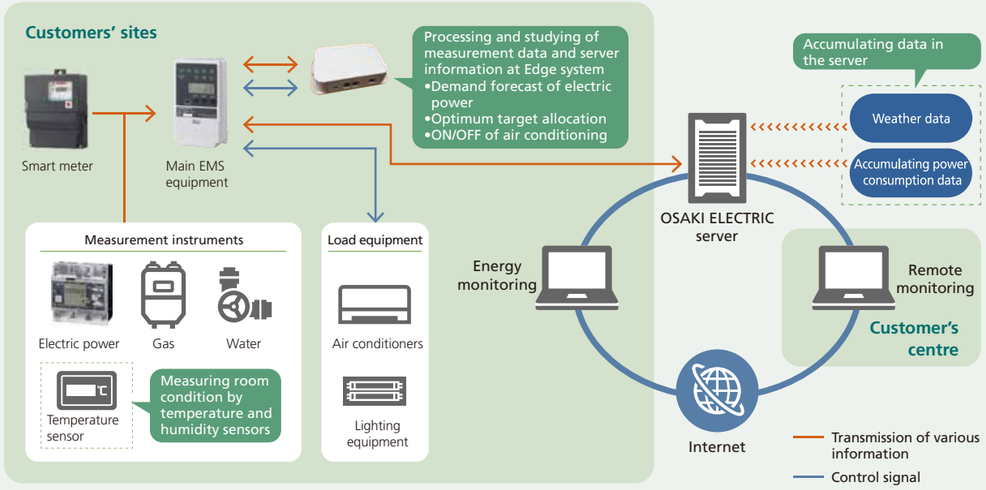
FY2018 Sales: ¥58.1 billion

FY2021 Sales Target: ¥57.0 billion

TOPICS

1. AI developed for energy management systems

Since 2003 OSAKI ELECTRIC has been providing customers with a system to control power usage and lower power consumption. In fiscal 2018, engineers at the Research and Development Division developed an AI program uniquely designed for power control and management. The system automatically controls air conditioning and lighting using demand control equipment. As of fiscal 2018, OSAKI ELECTRIC has installed the system in more than 3,000 large retail stores and home appliance shops, providing savings of 5% to 10% in power consumption per annum. The system required some parameters such as room temperatures to be set manually, but the new system with AI automatically sets the parameters using accumulated data, including power consumption patterns and weather forecasts. This allows stores to maintain the most comfortable conditions for customers at all times while saving power.



2. Smart metering system provides labour savings on meter reading

OSAKI ELECTRIC developed an automated meter reading service for large commercial facilities and building maintenance. The service allows building owners and maintenance companies to automatically collect tenant billing amounts for power, gas and water. Data is collected and analysed by cloud servers, allowing the building owners and maintenance managers to work on it remotely. This helps to save on the time and manpower required to go and visually read meters, and also prevent human errors.

Research and Development

The OSAKI Group is dedicated to the development of energy solutions for the society of the future. For this, the Group is concentrating its R&D on measurement and control, the core technologies used by the smart meters and peripheral products of power infrastructures. To further reinforce its position as an energy solutions provider, OSAKI's R&D division is putting resources into integrating new technologies, such as IoT, AI, cloud computing, sensing and communications protocols, with its product and service lineups, creating new value for users.

In fiscal 2018, the division introduced AI programming training for young engineers. The efforts put into training engineers in new technologies led to the development and commercialisation of AI embedded services.

ENGINEER'S VOICE

Since joining OSAKI ELECTRIC, I have been working on AI projects. The application of AI technologies is a new initiative for the company, and while I am constantly faced by the difficulties of working on new technologies, I find I enjoy the challenge. I am looking forward to learning a wider range of technologies and contributing to the development of value-added services.

Hirotoshi Sekiguchi
Engineer
Research & Development Division

Manufacturing

The OSAKI ELECTRIC Saitama Operations Center is the main factory for smart meters and other products for the Japanese market. It also plays the role of the mother factory for developing and testing manufacturing know-how. The Saitama factory owns highly efficient production lines using advanced manufacturing technologies and carefully-calculated procurement and logistics. Quality, cost and delivery are strictly monitored and controlled by seasoned employees. Employees engaged in manufacturing are highly motivated to maintain and improve manufacturing quality and processes for better products.

Efforts are being used to apply the same levels of manufacturing quality to our global manufacturing. Since fiscal 2016, engineers from the Saitama factory have gone to factories in Malaysia and elsewhere to enhance quality control and operations in a group-wide initiative. Beginning in fiscal 2019, OSAKI ELECTRIC will take the lead in the restructuring of global manufacturing operations, including the introduction of global procurement, to reinforce group-wide production.

Manufacturing lines in Senai Factory, Malaysia

New Business Strategies

Nobuyuki Ono
Director
Head of New Business Development Division

Combining a top-notch measurement technology with IoT and AI, OSAKI will propose a new lifestyle for the future society.

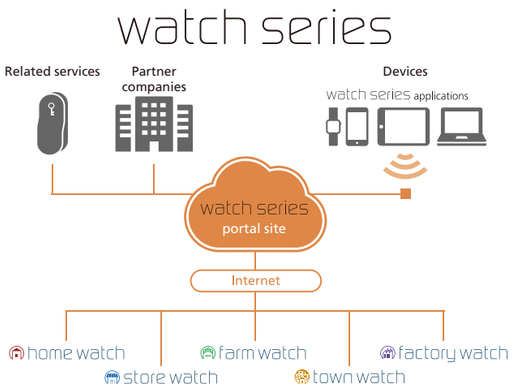
Since our foundation, OSAKI has proven our strength in measurement technology through production of electric meters and smart meters. It is this very technology that digitalised electricity usage, hence "visualised" power flow. Combining the technology with sensors, IoT, apps and online services, we created a whole new solution to control various parameters like room temperatures and lighting by remotely accessing electric appliances and other equipment. The "watch series," or the new solution, provides services to a wide range of customers including smart homes, retailors and farms. Our aim is to propose a new business style or work style for these industries through the provision of the "watch series" services that fit lifestyles in the future digital society.

I am excited to see the development of the next-generation energy infra-structure where smart meters will be a communication hub to housing and buildings. Our challenge as a solution provider is to deliver services within houses and offices to control the living or working environment for people.

"watch series"

A new solution service, the "watch series," delivers a tailored solution to the industry, based on data from various sensors combined with IoT and dedicated apps. In February 2018, OSAKI ELECTRIC launched a service for retail stores, followed by the launch of a new service for greenhouses in August.

The smart housing service lineups went powerful with the launch of smart lock, "OPELO." OSAKI ELECTRIC's smart locks are now installed at many rental apartments.



Verification test with smart lock

CUSTOMER'S VOICE

At JA AMENITY HOUSE, we considered the installation of smart locks for the following reasons: better security, easier process to introduce vacant rooms and smarter accessibility for tenants.

We were particularly concerned with security breach from Internet access. OSAKI's smart locks are accessible offline via a one-time password, meeting our expectation for security clearance. In addition, OSAKI's smart locks are uniquely designed to set on keyholes, unlike many peers which are often taped to the doors.

Since installing "OPELO" at our properties in November 2018, we have received good reviews from our tenants and real estate agents. An automatic lock feature also has great merit, which assures that the doors are locked after room viewings.

Smart locks and the IoT devices market are highly competitive with many start-ups introducing new products. I have high regards for OSAKI's product quality and reputation that they earned in their company history. I expect to see OSAKI prosper by leveraging its technology for product development and its commitment to delivery.

Toru Furuya
JA AMENITY HOUSE CO., LTD.

OPELO installed in a JA AMENITY HOUSE

Inside the laboratory

Development in collaboration with a wide diversity of partners and suppliers to promote next-generation energy infrastructure solutions using IoT and AI

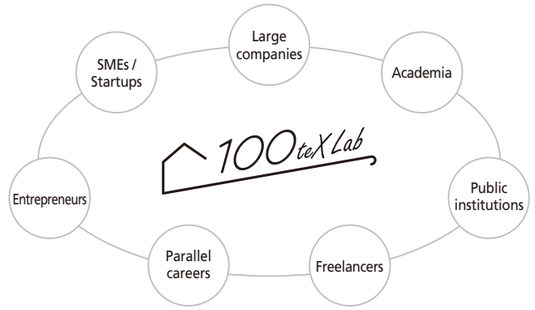
Open Innovation Laboratory

The OSAKI Group is strengthening cooperation among its group R&D divisions to realise further synergies. At the same time, we efficiently move forward with our development by pursuing open innovation through collaboration with partner companies, universities and research institutions, the outsourcing of development and the utilisation of external resources.

In November 2018, OSAKI established an open innovation laboratory in Gotanda, Tokyo, where OSAKI ELECTRIC was founded, as a venue for collaborative creation with universities, local governments and startups.

The role of the new laboratory is to provide a place that will give rise to projects that will form the cornerstones for building the society of the next 100 years. It is also aimed at ensuring a better society by collaborating in the creation of new value that surpasses industrial and corporate barriers.

At the laboratory, OSAKI aims to leverage its strengths in measurement and control technology while collaborating with university research laboratories, local governments and startups to accelerate development of advanced IoT and AI technologies. The endeavors will include the building of new business models, development of IoT devices and utilisation of big data to deliver new energy solutions.



Laboratory Project

Demonstration experiment on non-disease improvement in cooperation with local governments

The laboratory launched a Regional Health Promotion Project in November 2018. Under this project, the Tokyo Institute of Technology's Research Group for the Future of Sports and Health Science and aiwell Inc., in Kakegawa City, Shizuoka Prefecture, conducted a demonstration experiment relating to the construction of a health promotion platform for non-disease improvement. The experiment was started on 12th February 2019 and ran for about six weeks. OSAKI ELECTRIC collected and provided information such as home life data using smart meters and activity amount monitoring using indoor sensors.

Measuring health data of Kakegawa citizens participating in the project

CUSTOMER'S VOICE

Reasons for participating in the laboratory project and expectations

Origin Wireless Japan, Inc.'s patented technology, Time Reversal Machine™ (TRM), is a sensing technology that uses reflective changes in Wi-Fi radio waves to determine indoor conditions. Wi-Fi radio waves can be used for much more than just communications. Application of Wi-Fi signals to indoor monitoring and simple security is one of the possibilities of this technology.

The technology requires indoor infrastructure such as Wi-Fi communication terminals, power and installation locations. I believe the TRM technology is a good match with the "watch series" services and next-generation smart meters.

When we were asked to participate in the collaborative endeavors for the demonstration experiment in Shizuoka, we gladly accepted the request. I anticipate a future in which there will be a harmonious opening up between OSAKI's indoor infrastructures and TRM.

Tomoyuki Kakutani
Director
Origin Wireless Japan, Inc.