Strengthening Technology Management

To enhance its ability to bring innovation driven by social needs, OMRON has been engaged in strengthening core technologies, accelerating innovation, and strengthening intellectual property. This section highlights some of the progress made in fiscal 2019.

Strengthening Core Technologies

In fiscal 2019, we worked on creating new technologies, acquiring cutting-edge technologies through the corporate venture capital OVC, and implementing cutting-edge technologies in society through our business activities.

Creating new technologies

OMRON developed the decentralized learning technology Decentralized X that enhances the performance of artificial intelligence (AI) by integrating multiple machine learning models rather than aggregating field data in one place (November 2019)

Acquiring cutting-edge technologies through OVC P57

Implementing cutting-edge technologies in society through our business activities

- Industrial Automation Business: Launched the industry's first image processing system with defect extraction AI, which reproduces human sensibility and expert experience (June 2020)
- Social Systems, Solutions and Service Business: Initiated demonstration trials of a station guidance robot featuring voice-interactive AI engine that supports four languages (Japanese, English, Chinese, and Korean) (September 2019)
- Healthcare Business: Launched the world's first blood pressure monitor with an electrocardiograph (ECG) that enables users to monitor ECG data easily at home in the United States (May 2019)

Accelerating Innovation

IXI has been exploring new business models and is working on six business verification and development projects as of July 2020.

Major commercialization verification projects

- Project under a partnership agreement with Oita Prefecture to provide long-term care prevention services for the elderly (business verification phase)
- Organic tomato agri-automation project in China (business development phase)

Strengthening Intellectual Property

OMRON has been engaged in intellectual property activities based on its business, technology, and intellectual property strategies. In fiscal 2019, we continued to work on "Patent Dojo" and Invention Reward System to enhance the ability of our engineers to apply for patents. These efforts have led to an increase in the number of patents held by OMRON and recognition from external organizations.

Number of patents held

- 10,087 (increased by 305 from the previous fiscal year)

External recognition

- OMRON was selected for the fourth consecutive year as a Top 100 Global Innovator, an award recognizing the best 100 innovative companies and research institutes
- OMRON ranked 1st for the number of national patent applications for technology using AI in production plant management (survey by NeoTechnology, Inc.)

Example of Accelerating Innovation: Agri-automation Project

In recent years, China has seen rising health awareness and changes in food preferences. This resulted in a rapid increase in demand for fresh and delicious raw vegetables that are safe to eat. Organic or low-pesticide cultivation in a greenhouse is the best way of producing vegetables that are delicious and safe. However, this requires advanced farming skills and experience, such as careful temperature and humidity control, and measures against diseases and pests.

OMRON has developed an Agricultural Cultivation Support Service that uses information and communication technology (ICT) to visualize data on the growth of vegetables and their growing environment, including temperature, humidity, and hours of sunlight. The service also provides Alert and Recommend functions, as necessary.

The Agricultural Cultivation Support Service offers assistance based on scientific evidence at each step of the farming process, from raising seedlings, planting, and cultivation to shipment, thus enabling farmers to produce high-quality vegetables. In addition, process management and traceability are ensured through data accumulation, making it easier for producers to assure consumers of safety and security.

We are currently conducting demonstration trials in eight regions of China in collaboration with agricultural corporations, food manufacturers, and the agricultural sector of the Chinese government, with the aim of fully commercializing the service.