CUSTOMER CASE STUDY

Growing Glocal Fields.
SAC iWATA
Smart Agriculture iwata

The Iwata Smart Agriculture Project was launched to create a strong agricultural base by ORIX Corporation, Masuda Seed and Fujitsu.

Iwata Smart Agriculture Project establishes a new style of digitally-enabled agriculture, helping to make Japanese agriculture stronger.

At a glance

Country: Japan
Industry: Agriculture
Founded: 2016
Employees: 15 (3 on loan / 12 local hires)
Website: www.orix.co.jp
www.masudaseed.com

Challenge

Despite booming exports, the Japanese agricultural industry faces a lack of resource in innovation as well as dwindling recruitment and global competition. It needs to find new, creative ways to maximize yield and exploit new varieties of produce.

Solution

Fujitsu has joined forces with ORIX and Masuda Seed to create the Iwata Smart Agriculture Project, which will establish a new style of agriculture that takes full advantage of digital technologies including sensors, networks and the cloud.

Benefit

- Planned production based on customer demand will encourage the cultivation of new varieties
- By acting as the agent between the market, producers, and nursery businesses, the project will help grow businesses
- Enables remote, real-time monitoring of the climate in the greenhouses to ensure the most suitable environment for vegetable production

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Customer

Launched in early 2016, the Iwata Smart Agriculture Project aims to co-create a new business model involving a number of operators who will combine their knowledge and expertise to establish an agricultural value chain focused on creating a strong agricultural base in the Iwata area of Japan. Three companies have embarked on this innovative agricultural project: ORIX, with its extensive agricultural products distribution network, the Masuda Seed plant nursery business with expertise in developing seed varieties, and Fujitsu, skilled in digital technologies.

Products and services

- FUJITSU Akisai Food and Agriculture Cloud

Challenge

Exports of Japanese agricultural commodities have increased by 24.2 percent over the previous year, reaching 443.2 billion Yen. On their own, these figures would indicate a bright future for Japanese agriculture, but closer inspection reveals underlying structural issues that must be resolved if the sector is to continue growing.

Most agricultural enterprises are small and lack the resources to invest in innovation and growth. Furthermore, the farming population in Japan is aging rapidly. If younger people are unwilling to work in agriculture and the number of people taking up farming dwindles, this will lead to farmland being abandoned and uncultivated. As a result, yields will decline, negatively impacting regional economies. Agricultural business has also become globalized and more competitive. This means that it is now imperative for agriculture in Japan to make drastic changes.

With its Akisai Food and Agriculture Cloud offering, Fujitsu has been engaging in smart agriculture projects to contribute to improving the food and agriculture industry. These aim to use technology to harness different sources of knowledge and information, from a variety of operators, to deliver regional development via a strengthened agricultural sector. Moreover, it is a challenge for Fujitsu to enter the agriculture sector as a business owner rather than purely a technology provider.

Solution

The Iwata Smart Agriculture Project is one of the first initiatives of this approach to smart agriculture. It was launched to create a strong agricultural base by ORIX Corporation, Masuda Seed and Fujitsu in early 2016.

ORIX provides innovative financial services as its core focus but is also involved in other business services such as real estate and energy. Masuda Seed is a plant nursery business that has developed many new seed varieties over its 90-year history, while Fujitsu has a solid track record in implementing technology-based agricultural solutions.

The most striking feature of this project is that it creates an ecosystem, bringing together the strengths and diverse knowledge of multiple operators to build an agricultural value chain, thus co-creating a new business model.

Having built a national customer distribution network through financial services, ORIX's forte is its ability to directly gauge the needs of the food service and retail industries. This strength is used for a 'market-in' approach which involves planned production based on customer demand. It hopes this approach can inform the types of vegetables that consumers want through retail outlets, then this will encourage producers to take up the challenge of cultivating new varieties.

However, Japanese growers have had little contact with the international market and many of the new varieties that have been developed remain undiscovered. The new project should address this issue by acting as the agent between the market, producers, and nursery businesses. The advantage of having a place for co-creation is that it generates support for nursery businesses, as evidenced by the fact that several companies have already approached Masuda Seed to participate as partners in the new project.

Benefit

The Iwata Smart Agriculture Project will establish a new style of agriculture that takes full advantage of digital technologies including sensors, networks and the cloud. A plant factory consisting of several large greenhouses will be built in the city of Iwata in Shizuoka Prefecture, which receives about 15 percent more sunlight per year than the national average and is therefore suitable for greenhouse horticulture. Sensors for measuring temperature, humidity, CO2 levels, and the concentration of hydroponic solutions will be deployed in these greenhouses by Fujitsu.

The data collected by the sensors will be sent via the network for storage in the Fujitsu Akisai Food and Agriculture Cloud. Remote real-time monitoring of the climate in the greenhouses – including remote opening and closing of windows, starting and stopping of exhaust fans, air temperature control and other features – gradually builds a technical understanding of how to optimally maintain the most suitable environment for vegetable production.

In the future, the cultivation performance information stored in Akisai will include optimum sensor settings for each seed variety. Greenhouse environment control methods will also be packaged with a view to using them for developing a licensing business that achieves stable quality and yield.

"The new project is a venture with a perspective across the entire value chain consistent with our vision for agricultural innovation, so we were definitely keen to be involved in the co-creation of a new business model."

Masayuki Kurashina, General Manager, Agribusiness Department, ORIX Corporation

"We aim to take Japanese plant and seed varieties to the world by positioning this new project as our Plant and Seedling Showroom. That is the true appeal of the co-creation project for us."

Hidemi Masuda, Senior Managing Director, Masuda Seed Company

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