Farmconnect, an AI-based Farming Navigation System for Farmers

About the Company

Farmconnect is a telecommunications and agriculture venture company founded in 2019 under the national Electronics and Telecommunications Research Institute (ETRI) with investments from ETRI and ETRI Holdings. Key members include the CEO, agricultural experts and AI developers. Under contracts with seven agricultural organizations, Farmconnect provides a solution for managing the farming environment with its flagship product, an AI-based smart farming platform.

Background

More than 90% of the world's farmers as well as those in Korea are farming in outdated facilities. They are still cultivating the old-fashioned way. Data analysis is essential for introducing smart farming, but it can be very time-consuming. Farmconnect's solution collects data such as the farm environment and growing conditions and uses its analysis algorithm to notify in real-time any crop abnormalities and measures taken to optimize the farm environment. Farmconnect's solution helps farmers reduce the time and cost of data analysis. Farmconnect is upgrading and developing its system by accurately identifying the difficulties and needs of farmers through thousands of visits to farms.

About the Product

Farmconnect's smart farming platform is an agricultural solution that provides the optimal growing environment for crops depending on each farm's environment. Farmconnect has addressed the problems identified by agricultural experts through visits to farms for several years and is applying the optimal growing environment for each crop.

There are several farm management systems currently in the market, but most focus on specific aspects of farm management. In comparison, Farmconnect's smart farming platform provides an A to Z solutions from real-time farm environment management to pest control and cultivation management while gearing up to meet the growing demand for precision farming.

Farmconnect's system integrates the technologies for analyzing agricultural data (indoor/outdoor temperature, humidity, CO_2, soil environment, weather, etc.) and pest detection technology based on AI deep learning techniques to provide farmers with real-time crop status as well as offering tailored recommendations and forecast information to enable a preventive system that can increase crop yields and reduce problems.

AI-based smart farming platforms screens of a big data collection and analysis system used by agricultural organizations and screenshots of an app for farmers (Photo provided by company)

Competitive Edge and Business Strategy

Farmconnect's strength lies in its ability to accurately identify the needs of farmers and develop products accordingly as it is a software company with members having several years of experience in the agricultural field. Based on big data and experiences cumulated from visiting farms for several years and educating farmers, Farmconnect is well-aware of what farmers need in the process of growing crops and reflects the knowhow in our system. Whereas other agricultural companies resort to existing hardware, Farmconnect works with cutting-edge technologies and offers its system developed with its patented algorithms that analyze agricultural data.

Based on its technological advantage, Farmconnect can provide high productivity at low cost compared to investing in expensive facilities. Farmers can introduce smart farming at a low cost just by installing sensors that collect farm data and can expect productivity to improve by more than 30%. By installing additional sensors, farmers can also tap into specialized consulting and analysis services.

The technology incorporated in Farmconnect's platform is highly differentiated from existing technologies as it combines pest detection and prediction technologies as well as smart data analysis. The deep learning algorithm used for analyzing the farm environment is Farmconnect's proprietary technology, and Farmconnect plans to continuously improve the technology through system integration and upgrades.

Future Plans

Korea
· Distribution of Farmconnect's system to more than 160 agricultural technology centers in Korea.

Overseas
· Entry into the Azerbaijani market
- Signed MOU with the Scientific Research Institute of Vegetable Growing and the Institute of Zoology under the Azerbaijani Ministry of Agriculture to demonstrate the AI-based solution for analyzing the activities of bees

Farmconnect's farm sensors and data collection devices (Photo provided by company)

Farmconnect Exports its Farming Solution – an MOU Signed for the Joint Development and Upgrade of an Azerbaijani Platform (published in Seoul Economic Daily)
- Participation in a project of rebuilding the Karabakh region: Spreading data farming technology in Azerbaijan and exporting to neighboring countries

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* The opinions expressed in this article are the author's own and do not reflect the views of KOTRA.