20-October, 2022
DXAS Agricultural Technology LDA
Kagome Co., Ltd.
NEC Corporation

DXAS, a joint venture established by Kagome and NEC, to provide AI farming advice and automated irrigation control services for pulse drip irrigation

- Contributes to sustainable agriculture by promoting environmentally friendly and profitable farming while addressing water shortage issues -

Lisbon, Portugal, Tokyo and Aichi, Japan – October 20, 2022 — DXAS Agricultural Technology (DXAS, Head Office: Lisbon, Portugal; CEO: Kengo Nakata), a joint venture between Kagome Co., Ltd. (Kagome, Head Office: Aichi, Japan; President: Satoshi Yamaguchi) and NEC Corporation (NEC, Head Office: Tokyo, Japan; President and CEO: Takayuki Morita), will be enhancing NEC's AI-enabled agricultural ICT platform, CropScope, with the addition of AI farming management advice and an automated irrigation control function for pulse drip irrigation (*).

The platform's new functions are expected to be deployed from April 2023. This will contribute to sustainable agriculture around the world by further promoting environmentally friendly and profitable farming while addressing water shortage issues at farming sites.

Agricultural producers have been facing challenging conditions in recent years due to the effects of global warming, climate change, and soaring prices of agricultural materials.

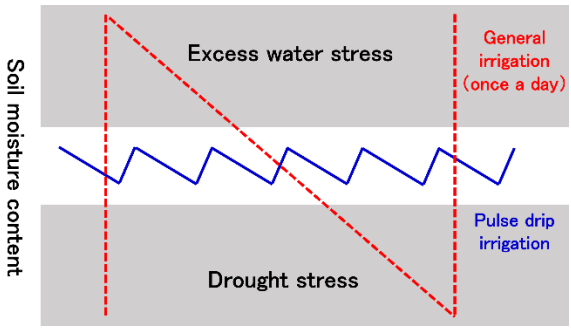
In particular, droughts that have occurred in various parts of the world over the past few years have severely damaged the cultivation of agricultural crops, and countermeasures against water shortages have become an urgent issue in realizing sustainable agriculture.

Conventionally, pulse drip irrigation is commonly known as a cultivation method that maintains optimal soil water content and reduces water consumption. However, this cultivation method has not been widely used because it is difficult to determine the optimal amount of water, which can change constantly, implementation of the method by producers who manage large and multiple fields is complicated, and it requires a heavy workload.

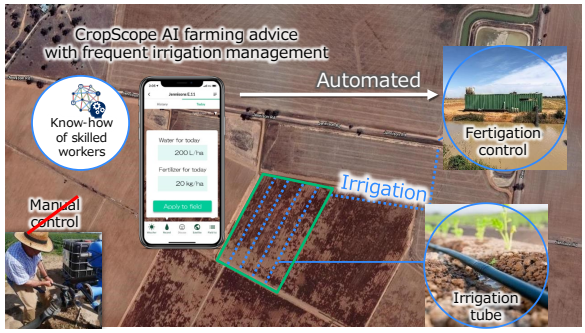
In order to solve these difficulties, Kagome and NEC conducted demonstration tests in Portugal this year, using AI farming advice on irrigation and fertilization provided

by CropScope, in order to realize the automation of pulse drip irrigation. As a result, they succeeded in increasing the yield by about 20%, with about 15% less irrigation when compared to a field that did not utilize CropScope.

Based on the results of the demonstration tests, DXAS will accelerate farming support by promoting the introduction and spread of the new services in the global tomato market, mainly in Europe, the Americas and Australia.



Conventional irrigation causes plants to be stressed from excess water or drought, while pulse drip irrigation can maintain water stress-free conditions



The automated irrigation system makes it possible to automatically control AI farming advice, such as irrigation frequency, to help eliminate complicated and time-consuming manual work

■Overview of the DXAS

Location	Lisbon, Portugal
Start of business	September 2022
CEO	Kengo Nakata（Concurrent post: General Manager, Smart Agri Division, Kagome）
Business	Sale of farming management recommendation services and field visualization services utilizing AI, marketing, promotion, customer development, and service planning
Capital and shareholders' equity ratio	2,119,392.44 Euro Kagome: 66.6%, NEC: 33.4%

■Introduction to CropScope

	Farming management recommendation services	Visualization services
Farmers (Tomato growers)	AI which has acquired the know-how of skilled workers enables environmentally friendly and profitable farming. It also facilitates technology succession and helps to increase the number of new farmers.	It is possible to quickly notice irregularities and to reduce cultivation risks through visualizing the conditions of large fields.
Farming instructors	The use of formalized agricultural support know-how can reduce the time required to guide producers and train farming instructors.	Even if a field is large, it is possible to accurately identify the areas where irregularities are occurring and provide guidance based on accurate data.
Tomato processing companies	Stable procurement and lower procurement costs can be achieved by reducing procurement risk and minimizing input.	Productivity can be improved through optimal total harvest adjustments based on objective data.

CropScope Functions and Value Delivered

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(*) A cultivation method in which the amount of water and fertilizer required by a crop are given in small portions multiple times in order to maintain the optimum soil moisture content for the crop.