



Overseas Expansion of Japan's Leading Agricultural "IoT" Technology Start of "e-kakashi" Verification Tests at the Colombia International Research Organization

- Providing support with Japan's leading agricultural IoT technology for domestic rice production methods that can compete with imported rice and are likely to increase with free trade agreements -

Tokyo, July 25, 2017 --- PS Solutions Corp. (head office, Minato-ku, Tokyo, President and CEO: Amane Kito, hereafter "PS Solutions"), affiliated with SoftBank Group, and the Centro Internacional de Agricultura Tropical (headquarters: Cali City, Colombia, Director General: Ruben G. Echeverria, hereafter "CIAT"), as part of a joint research project* (hereafter "project") for internationally competitive sustainable agriculture, have started verification tests on the "e-kakashi" agricultural IoT solution to share cultivation methods and knowledge based on visualized agricultural data.

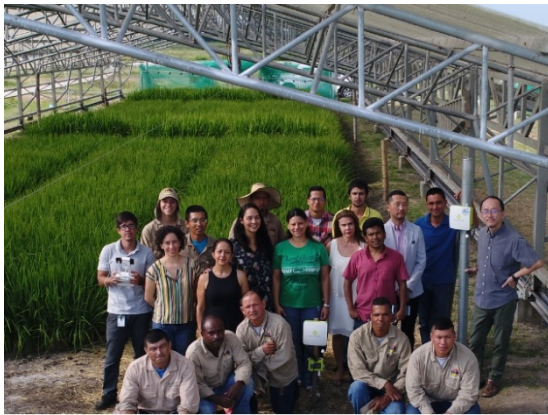
When deploying the e-kakashi Colombia project, Hitachi, Ltd. (Executive Director and CEO: Toshiaki Higashihara, hereafter "Hitachi"), focusing on IoT field as one of its growing business, provided total support for the sensor network and cloud environment suited for the local agricultural field as a development partner of PS Solutions.

Currently in Colombia, 40 kg per person of rice is consumed every year, and it is an important annual crop making up the largest area of cultivation space in Colombia. Whereas the demand for rice domestically in Colombia is increasing, production costs are also increasing due to the effects of climate fluctuations and inefficiencies in the use of irrigation water and fertilization elements. With a lack of growth in planting areas and yield, there are major concerns for the self-sufficiency rate of rice consumption.

In Colombia, as a result of the Free Trade Agreement (FTA) with the United States that came into effect in 2012, currently 80% of customs duties have been gradually abolished, and by 2030, complete deregulation of the import of rice produced in the United States is due to begin. To prevent reduction in rice production domestically due to the increase in imported rice, it is necessary to establish competitive, sustainable agriculture.

Against this background, CIAT and PS Solutions have realized improvements in productivity through detailed cultivation management using Japan's leading agriculture IoT technology, and have started verification tests at the local site.

Moving forward, the interim progress of the verification tests is scheduled to be announced at the FLAR (Latin American Rice Fund) Technical Meeting held at CIAT between August 14th and 17th (local Colombia time).



Local Project Members



"e-kakashi" Established in CIAT Test Crop Field

In recent years, there have been calls for the further globalization of agriculture with the Trans-Pacific Partnership Agreement (TPP) and Economic Partnership Agreement (EPA). Moving forward, as global competition for agriculture is expected to increase even further, it is assumed that methods of increasing the efficiency and quality of cultivation based on scientific grounds, such as exhaustive data collection and analysis, will become ever more essential. PS Solutions, CIAT, and Hitachi will continue to promote research and development to bring about the development of agriculture IoT.

Approach of the various organizations to the verification tests

Centro Internacional de Agricultura Tropical(CIAT)

The role of CIAT in this project is mainly the development of new rice varieties, but as a Center, they have raised the goal of Eco-Efficient Agriculture, and, through the project, are aiming to improve productivity in order to realize deployment of the newly developed rice varieties and resource-saving rice cultivation. With these verification tests, it has been possible to deploy “e-kakashi” for the first time overseas and start monitoring the irrigation, fertilizers, and reduction in work management, as well as precision cultivation management. In the future, through the collection of reliable data in different cultivation regions within Colombia (Cali region, Ibague region, Saldanha region, etc.) and by promoting application development, they aim to promote investment and encourage the move to IoT in agriculture for the Colombian government, the rice producers’ union (FEDEARROZ) and in farm units. Through these approaches, they wish to realize the goal of the project: to develop and establish resource-saving rice cultivation.

More information about CIAT can be found at: <https://ciat.cgiar.org/>

PS Solutions

“e-kakashi”, developed and sold by PS Solutions, is a solution that collects environmental information and crop growing information from crop fields, analyzes it on the Cloud and provides feedback with easy-to-understand, visualized results. The analysis results from e-kakashi are provided to users using the electronic cultivation navigation tool “ek Navi”, and this contributes to decision making and risk hedges in agriculture. Sensors sharing meteorological data in real-time have already been introduced in Colombia, but until now there has not been a system like “e-kakashi” for analyzing data on the Cloud and navigating methods of cultivation. This promises to contribute to the resolution of a number of agricultural issues facing Colombia.

More information about PS Solutions can be found at: <https://en.pssol.co.jp/>

Hitachi

Hitachi drives social innovation businesses that resolve a variety of issues society and customers are facing, using information technology (IT) to collaboratively create, in social infrastructure and a wide range of fields. Hitachi, as a PS Solutions development partner, comprehensively provides an environment for collecting, accumulating, and managing sensor data for the agricultural field from IoT devices to the Cloud, and they are supporting the e-kakashi service. In this verification test, they are providing technical support for the provision of a stable service in Colombia.

More information about Hitachi , Ltd. can be found at: <http://www.hitachi.com>.

*International joint research project between Japanese and Colombian research institutions

Colombian rice crops use water and fertilizer inefficiently due to insufficient irrigation foundations in the paddy fields. Additionally, the depth of water on the field surface is not constant and weeds are difficult to control, and this in turn reduces productivity. Additionally, due to climate fluctuations in recent years and the deregulation of trade, the environment encompassing agriculture has changed greatly and there is a need to ensure domestic food security and realize internationally competitive, sustainable agriculture.

In order to tackle this situation, an international joint research project through research institutions in Japan and Colombia (SATREPS (Science and Technology Research Partnership for Sustainable Development: <http://www.jst.go.jp/global/english/index.html>) funded by the Japan Science and Technology Agency (JST) and Japan International Cooperation Agency (JICA)) was inaugurated in 2014. In this project, in addition to developing new varieties of water-saving and fertilizer-saving rice with improved root systems, they have introduced cutting-edge field management technologies and constructed resource-saving rice production systems optimized for the cultivation environment. They aim to entrench these systems in both Colombia and other South American countries.

Overview of the Technical Meeting

An international meeting (official Spanish name: *Taller de Evaluación y Selección y Comité Técnico para la Zona Tropical FLAR*) consisting of rice planting technicians from 17 countries belonging to the Latin American Rice Fund.

Starting at 8 am on August 15th (Tuesday), an introduction to “e-kakashi” by PS Solutions employees and CIAT researchers, and an announcement of the interim progress of the verification tests is planned.

Date/time: August 14th (Mon) to 17th(Thurs), 2017 (local time)

Location: Centro Internacional de Agricultura Tropica (Colombia)

Deployed solutions: “e-kakashi” (<https://www.e-kakashi.com/en>)

■ Trademark-related displays

- “e-kakashi” and “ek Navi” are trademarks or registered trademarks of PS Solutions.
- SoftBank and the names and logos of Softbank are the trademarks or registered trademarks of the Softbank group in Japan and other countries.

###

Information contained in this news release is current as of the date of the press announcement, but may be subject to change without prior notice.
