smartisland

Serving **60,000 m²** of farmland • **250+** Customers

Italian start-up Smartisland innovates the agri-food chain with precision farming technology.

Faced with increasing weather extremes, dwindling resources, and a growing population, modern farmers are under constant pressure to improve crop yields and productivity.

With this challenge in mind, Sicily-based Smartisland aims to create and distribute new technological solutions that contribute to a more efficient and sustainable agri-food chain.

Smartisland's crop monitoring system lets agri-food companies across supply chains harness sensor data to save on water and chemical resources, prevent crop diseases, and telematically control their farms wherever they are.

To deliver actionable crop insights to customers, Smartisland needed a versatile communication platform capable of enabling and managing connectivity even in rural areas. The company found the reliability and control it was looking for in EMnify.

About:
- Headquartered in Sicily, Italy
- Smart farming solution provider

Goal:
Digitalizing and improving the agri-food chain with new technology.

Solution:
Modular sensor hardware and cloud-based software that enable monitoring, analysis, and automation of agricultural processes.

EMnify's products in use:
Connect:
- Multi-network IoT SIM: Best cellular coverage at remote agricultural fields.

Operate:
- Web Portal: Simplified management and control of SIM and device connectivity.

"We chose the EMnify platform because of the highly efficient and accurate service it offers, allowing us to better manage our IoT devices and solution."

Maria Luisa Cinquerrui
CEO at Smartisland

Improving farming practices with fine-grained sensor data

Smartisland provides a complete hardware and software system for remote monitoring of different crop types including vegetables, olives, fruits, and almonds.

The Daiki Vision and Analytics devices collect images and information on the environment, leaf wetness, and soil characteristics, while aggregating further climatic and crop data on a micro-field level from modular Daiki Node sensors located within a 5-6 km radius via LoRa technology.

"The integration of LoRa technology into Daiki Nodes allows end consumers to enjoy a green service with low environmental impact and at minimal expense," explained Maria Luisa Cinquerrui, Smartisland's CEO.

Using the EMnify SIM, Daiki Vision devices then forward all sensor data to the Daiki Modular Cloud Platform, a precision farming software solution, where the information is extracted, processed, and visualized for users to access any time.

By delivering the most important insights into the progress of both their crops and farms, the Daiki system helps customers prevent climatic stress, pathogens from water, and crop diseases while enabling greenhouse automation and comprehensive diagnostics on crop health and growth.

Daiki devices and deployment

EM*nify*

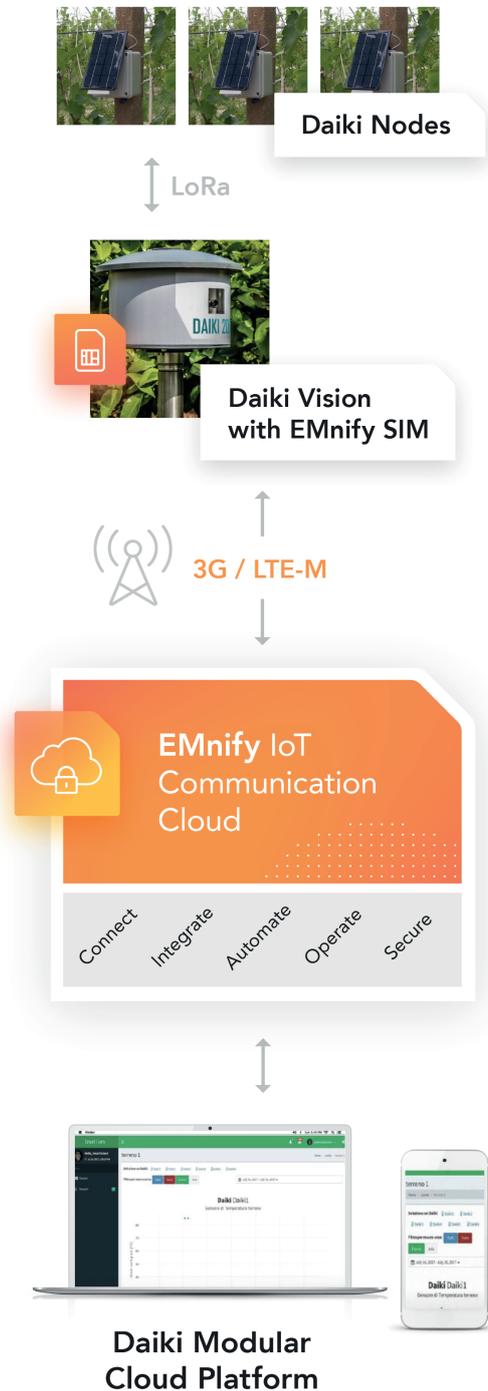# Reliable cellular communication in remote agricultural fields

To create a data analytics network that connects farmers worldwide, Smartisland needed a solid device-to-cloud communication solution. The challenge is that many farms and greenhouses are situated in remote areas where cellular service is unstable or completely missing with traditional mobile network operators.

"We have tried several other network providers, but none of them offered a service as reliable and easy to manage as EMnify," said Cinquerrui.

Providing access to multiple operators' networks, the **EMnify SIM** can automatically select the best cellular connection wherever Daiki devices are, to ensure successful data transmission to the cloud.

Using the **web portal**, the Smartisland team can gain a real-time view of the device status, easily activate or deactivate SIM cards, and stay on top of all device connections.

"The results we've seen while working with EMnify have been very positive. Thanks to the platform, we have complete control over data communication from the sensors to provide the best possible service to our customers," added Cinquerrui.

Daiki Nodes

LoRa

Daiki Vision with EMnify SIM

3G / LTE-M

EMnify IoT Communication Cloud

Connect   Integrate   Automate   Operate   Secure

Daiki Modular Cloud Platform

EM*nify*

Continuous agricultural innovation fuelled by cellular IoT

Looking ahead, Smartisland plans to further develop artificial intelligence capabilities into the Daiki Modular Cloud platform. This will translate into better insights and services that help to control the crop and prevent diseases and stress conditions that induce unwanted changes to the plant, especially to its root and visual state.

At the same time, the company also plans to launch Smartisland Lab, an innovative start-up consisting of latest-generation greenhouses, experimental fields, and a laboratory to test new sensors, drones, robotic and machinery technologies for greenhouse and fertigation automation.

The robust device-to-cloud communication enabled by EMnify means that Smartisland can always rely on secure and reliable sensor data collection from any farmland, to deliver and innovate smart farming services today and in the future.

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