

# Smart Poultry to Drive Quality Production with LoRaWAN Solutions in Japan

Creating Accurate Monitoring and Management

Location: Miyazaki, Japan

Milesight Partner

CropWatch LLC.

Location

Miyazaki, Japan

Number of Devices Deployed

EM500-CO2 x4 Devices Per Coop house  
UG67 x2

Applications

Smart Poultry Industry  
Smart Farming Solutions

## Background

Poultry farming plays a vital role in feeding the growing global population. One of the most significant risks in poultry farming is the rapid spread of diseases within flocks. While the poultry industry is essential for meeting the global demand for low-fat, protein-rich foods, consumers are increasingly concerned with the quality and safety of products.

Meanwhile, broiler chickens are very sensitive to their environment. Keeping a close eye on their surroundings is key to keeping them healthy and improving meat production. As the number one poultry farm in Japan, Miyazaki farmers are aligned with the development of technology and IoT solutions to ensure a stable, long-term supply of high-quality broilers. Milesight's partner, CropWatch, tailored an advanced solution to their needs to create smart poultry with ease.



## Challenges



### Poor Network

Many farms are located in rural areas where coverage for cell phones and internet may not be available.



### Wide-spread locations

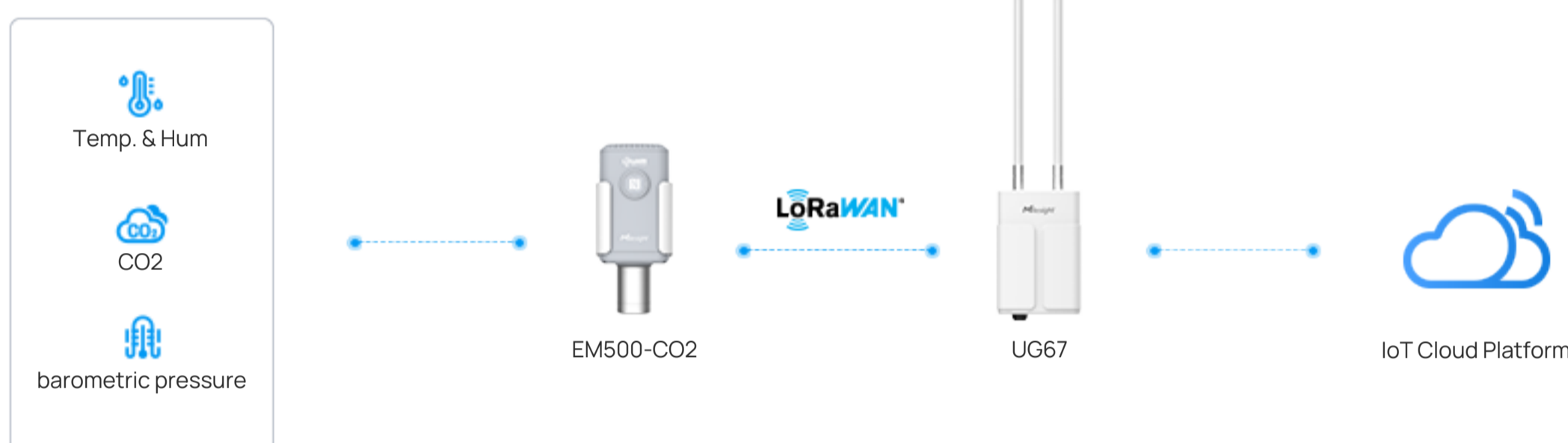
Our clients maintain multiple locations that are not in the same area. After the installation of this system, there is no longer a need for a dedicated internet connection to be run to each location, but instead a single internet connection at one location reducing significant monthly cost.



### Lack of Precision Poultry Farming

Traditional poultry farming relies mainly on experience and observation without the support of scientific data.

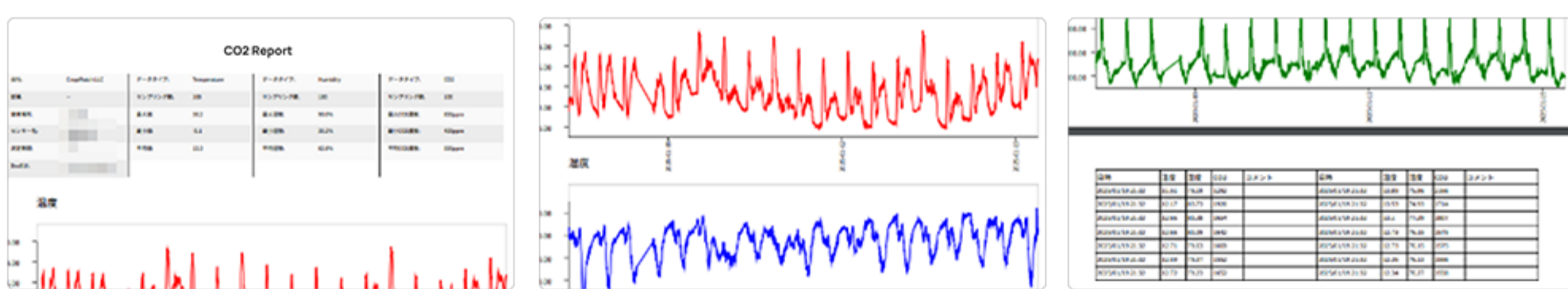
## Solution



To address the challenge of monitoring appropriate heat and assessing the health status of poultry, a new intelligent monitoring system based on IoT sensors has been developed and delivered by CropWatch. With Milesight EM500-CO2, 4-in-1 Outdoor CO2 Sensor, the environmental data such as on temperature, humidity, barometric pressure and CO2 levels are now obtained remotely in real-time. Then, effortlessly, wireless IoT solution networks are set up in poultry farms to get data. Through the LoRaWAN communication via Milesight UG67 Outdoor LoRaWAN Gateway, the data will be then shown and analyzed on cloud platform, to help utilize the operations of farms. By using real-time data, farmers can make better choices. This helps make egg and broiler chicken farming more sustainable, animal-friendly, and efficient.



Farmers can set threshold values based on the environmental data. By doing so, notifications will be immediately reported to farmers when abrupt numbers or any problems occurs before it is too late. More importantly, weekly and monthly reports are generated as valued references so that the farmer can have a more comprehensive view to optimize operations in the long run.



## Results

### Improved Operations

By implementing LoRaWAN solutions, less worker checks will be required, preventing humans from making frequent trips to the farm in the work week and the weekends. Less farm visits means less chance of introducing viruses, improving working efficiency, while monitoring CO2 and temperature for overall bird health.

### Real-time Data Collection and Visualization

With LoRaWAN solutions, data transmission ranges up to 15 km in rural areas effortlessly. Therefore, continuous and precise monitoring of environmental heat and the health of chickens is achievable, enhancing animal welfare and facilitating the rapid identification of early signs of illness for timely interventions.

### Wireless Sensor Networks for Poultry Farms

The use of IoT-based environmental monitoring and wireless sensor networks in poultry farms has made it possible to collect and show data in real time. The EM500-CO2 is equipped with high-capacity and easily-replaceable batteries. This facilitates the installation and maintenance process and reduces wiring costs. This helps farmers make better decisions to improve conditions, animal health, and farm productivity.

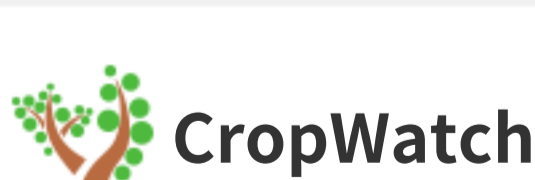
## Why Choose Milesight

"We tried multiple other outdoor IP6X rating sensors from various vendors and found that Milesight's EM500 Series sensors performed better than the competition in both range and payload size."

- CropWatch LLC



## Milesight Partner



### About CropWatch LLC.

At CropWatch, we help our customers to go from concept to installed system with full end-to-end support. We specialize in knowing how to install sensors in optimal ways, help our customers with on-boarding, and our UI is optimized for providing alerts, reports, and fast data acquisition.

Milesight

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