

Managing Edge AI in Smart Farms with Buildable Out-Of-Band Features



Gone are the days we speak of the countryside as a rural location with little to no network reception. The grand expansion of AI/IoT has even the tiniest of seedlings to the largest of cattle living amongst technology. But how exactly does the ecosystem work and why is remote edge management so fundamental?

The Coop

A farmer's land looks a lot different now days. If you walked into an industrial poultry farm, you will be surprised at how well regulated the raising

rooms are. From moderate temperatures to well-lit and ventilated rooms, to better-than-bearable smells of livestock. If you looked carefully, you will find small encapsulated smart devices speckled all over the interior to ensure the poultry house is monitored and set up to the best condition possible for successful production.

Making Sense of it All

To optimize poultry farms, different types of smart sensors are connected to edge devices inside the bird house to enable remote monitoring and

data collection. Smart sensors can help create controlled environments for better bird welfare, precision feeding, disease prevention, and an overall better production line for the poultry industry.

While remote sensors have advanced to adapt to different environments, it is up to their connected edge systems to transfer the data back to headquarters. With edge devices being the hub for low latency data transfer, they need to operate uninterruptedly for the entire smart poultry system to work.

Investing in Data-Driven Farming

While implementing smart poultry house systems is ideal

for optimal food production, the reality is that these high-tech sensors and edge devices need to be placed as close to the source as possible, where the technology is also tucked away from inquisitive birds.

Unfortunately, the strategic placing of such devices make it tedious and expensive to maintain the system. Technicians already need to spend a lot of time traveling far and wide to get to the farms, let alone entering the poultry house to attend to each device individually, which, in addition, is just as undesirable for both the health of the technician and the livestock.

But maintenance is inevitable. With huge temperature drops and condensation on the horizon, edge devices can glitch and crash, causing the entire

poultry monitoring system to malfunction. So, for the poultry industry to truly get their return on investment in data-driven farming, remote edge device monitoring and management is key.

Remote Edge Device Management: Open, Unified, and Buildable

There are several workable remote management platforms currently available, but most are only good for certain features in certain industries. Allxon's remote edge management platform not only includes powerful tools, like Out-Of-Band power cycling, that can help poultry industries instantly resolve system errors and crashes in a click of a button, Allxon takes remote edge management one step further and empowers managed service providers (MSPs) with a unified platform that is open and customizable.

Allxon pioneered the SaaS-In-Chip concept in collaboration with Nuvoton to make it possible to develop and apply any desired Out-Of-Band (OOB) hardware monitoring feature onto Allxon Portal, to truly save MSPs time and operational costs through extensive and targeted remote edge device management.

Using the value-added Nuvoton NUC980, MSPs can



efficiently remote manage multiple devices using built-in Allxon Out-Of-Band features. Impressively, the Allxon plugIN development kit inside the microchip even benefits the cooperation between service integrators and MSPs by giving them the competitive advantage to develop industry focused or project based OOB features together. Additionally, managed service providers can also fully enjoy all of Allxon's In-Band features that are ready for immediate use on their easy-to-use SaaS platform. In the case of smart poultry farms, developers can build custom OOB features such as battery, temperature,

vibration, or humidity detection onto the portal for MSPs to manage. MSPs can then set up instant alert notifications on Allxon Portal to stay on top of edge device monitoring and management.

Optimizing Smart Agriculture: All Services ON, All Business ON

The vast deployment of edge AI in smart farming systems has brought the demand for even smarter remote edge device management solutions. Ranging from livestock monitoring to precision farming, to smart greenhouses, Allxon continues to bond the AI/IoT ecosystem

and ensures all edge devices can be easily managed over a simple internet connection, using simple SaaS services. ●

- Find out more on how to customize Out-Of-Band features with Allxon: [Allxon Out-Of-Band Technology](#)

Check out our valued partners that are making smart farming possible: [Seed Partners with Allxon to Enable Efficient Remote Hardware Management Services for NVIDIA Jetson Platform](#)