

CASE STUDY

KORE Supports Smart Agriculture for BinSentry

Overview

BinSentry, a U.S. agriculture technology company, is aiding in the digitization of agriculture processes to create efficiency, support sustainability, and save millions in lost revenue.

The purchasing and supplying of feed on a farm is a large function of agriculture, and it's one that stands to see significant improvement. Feed on the farm is stored in large silos, and the traditional way farmers measure the level of feed is to hit the side of a silo with a hammer. The sound caused by the hammer hitting the silo is the only indication of how much feed is left in the silo.

"The hammer is literally what a lot of farmers and feed mills are depending on in order to measure how much product is inside of their feed bins on their farm," said Randall Schwartenruber, BinSentry founder and CEO. "So, you have this massive, massive problem. It's an information deficit, essentially, that exists between the farm and the feed mill that produces feed for the farm."

This manual, inefficient tabulation of feed by the farmers essentially creates revenue loss for feed mills.

"That information deficit creates all kinds of downstream costs and inefficiencies in a feed mill's organization that ultimately costs them millions of dollars each year," Schwartenruber said. "If a mill doesn't have accurate and reliable feed inventory information about what's on the farm, it forces the supply chain to function reactively, whereas we believe that, with the help of BinSentry's platform, that process can be automated such that mills are able to be proactive."

In pursuit of solving this challenge, BinSentry has developed a feed ordering automation platform that is enabled through the Internet of Things (IoT). A sensor is installed inside the feed bin, or silo, which periodically measures the level of feed. Then data is communicated via cellular connectivity to the cloud and viewed via a dashboard.



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"Now, our feed mill customers can look at their dashboards and in real-time see exactly how much product exists in every single feed bin that they service, act proactively to manage demand, and then plan accordingly. It takes only 15 minutes to install the IoT-powered sensors which effectively solve a 40- year-old problem," Schwartzenruber said.

Challenge

Supporting connectivity in any IoT solution can be a difficulty, but especially in widespread, and often rural, deployments, it can be especially challenging. BinSentry was attempting to manage multiple carrier contracts and plans all in-house and it became too much to manage.

Rural connectivity across a wide geographic area introduces many complications. Trying to leverage a single carrier in a widespread deployment is oftentimes not feasible. Having to tie together a connectivity ecosystem that is powered by several Mobile Network Operators (MNOs) means the most reliable coverage no matter where the IoT device is located.

BinSentry ended up selecting several carriers and was managing the connectivity infrastructure in house, which meant multiple contracts, as well as multiple billing, usage, and support systems. And in the event of an MNO change or outage, carrier lock-in could create issues that might have led to the IoT solution not working.

Solution

BinSentry leveraged KORE as an expert partner in connectivity so that their solutions could work anywhere it was utilized. KORE has partnerships with Tier 1 connectivity providers and offers a wide range of connectivity technologies that are resilient, reliable, and tailored to the specific needs of each individual use case.

BinSentry is able to seamlessly manage their diverse connectivity via powerful connectivity management platform from KORE. The platform gives a unified view of all devices connected within an IoT ecosystem so that BinSentry can provision IoT devices, prevent data overages and unnecessary costs, and diagnose connectivity issues in real-time.

KORE also provided BinSentry with its eSIM, which eliminates the needs for costly truck rolls when a carrier change is required. The KORE eSIM is a ruggedized SIM that is capable of supporting multiple profiles and can be provisioned remotely, which not only makes carrier changes simple, but it allows for out-of-the-box connectivity to help bring solutions to market faster.

Results

Because of KORE, BinSentry was able to bring solutions in challenging, rural environments – turning unreliable connectivity conditions into reliability.

“KORE has enabled us to go into those environments and not have to worry,” Schwanenruber said.

Through the use of the KORE eSIM, BinSentry can provision devices to connect to the strongest

available network to avoid gaps in coverage, and if the company chooses another carrier or connectivity technology, they can provision over-the-air to avoid physical SIM swapping. The eSIM can last the entire lifecycle of a device, which creates the business case for less costs and more elastic solutions.

Through the connectivity management platform, BinSentry can mitigate costs and fix any connectivity issues that may arise in real-time, and easily manage multiple carriers through a single pane of glass.

Finally, BinSentry can now offer to its customers not just a business enhancement, but a way to stave off waste by providing the exact amount of feed that farms need, exactly when they need it. And sustainability is supported by having less truck deliveries of feed because the guesswork in demand is eliminated.

About KORE

KORE is a pioneer, leader, and trusted advisor delivering mission critical IoT solutions and services. We empower organizations of all sizes to improve operational and business results by simplifying the complexity of IoT. Our deep IoT knowledge and experience, global reach, purpose-built solutions, and deployment agility accelerate and materially impact our customers’ business outcomes. For more information, [visit www.korewireless.com](http://www.korewireless.com).

About BinSentry

BinSentry is an agricultural technology company developing an innovative Internet of Things (IoT) solution which enables feed mills and livestock producers to effectively monitor on-farm inventory, dramatically increasing operational efficiencies. Powered by solar and operating on low-power, long-range networks, their cutting-edge solution installs in less than 10 minutes and delivers data to the cloud, reliably and without interruption. Equipped with a wealth of actionable insights that BinSentry’s software delivers, BinSentry customers can automate ordering, prioritize production, and optimize the transportation of feed – eliminating feed outages while gaining more insight into animal performance.

