verizon

Helping Improve Quality and Control Costs from Afar

Verizon Remote Monitoring solutions can help boost efficiencies in multiple industries by providing near real-time information on conditions in the field. These solutions allow organizations to remotely track electrical usage, monitor moisture levels in farm fields, measure fuel-tank levels and more—all without ever manually dispatching an employee.

Wireless Technology on the Farm

Farming can be a challenging business. Volatile weather, thin profit margins and high capital investments in land, facilities and machines come with the territory. Technology is helping farmers gain more control.

Advances in machine-to-machine and cloud technology make it possible to remotely monitor soil conditions, livestock feed levels, irrigation systems, ammonia-tank levels, equipment locations, commodity prices and more. Access to this deep level of data can help farmers make better, more-informed decisions, increase efficiency and keep costs under control.

Shade Haven Company

USING ADVANCED TECHNOLOGY TO HELP IMPROVE FARM CONDITIONS

Wireless monitoring solution helps shade-structure company keep cows cool.

Organization overview

Shade Haven Company, based in Viroqua, Wisconsin, makes mobile shade structures for beef and dairy farmers. Peter Bergquist, vice president of operations, said when cows get too hot, they eat less—which causes significant problems for farmers.

"In terms of the dairy industry, it can be anywhere from a 20 to 30 percent production loss because of the heat stress," Bergquist said. A similar although slightly smaller effect also occurs with beef cattle.

Providing cattle with shade also helps farmers who want to market their products as humanely raised. The collapsible structures can be moved around to different spots in a pasture using an ATV, or they can be transported farther away on a truck. A 40-foot diameter umbrella can provide about 1,200 square feet of shade and help keep about 50 cows cool.

Shade Haven has been in business two years. It has sold the umbrella machines to farmers in the Midwest, South and Northeast, and has had inquiries from as far away as Europe and Dubai. Bergquist said the company also sees potential urban markets developing for the structures.

"THEY CAN ESSENTIALLY HAVE A WEATHER STATION THAT'S GIVING THEM MORE OR LESS REAL-TIME INFORMATION ABOUT THEIR FARM."

—Peter Bergquist, Vice President of Operations, Shade Haven

Case Summary

Organization description:

Shade Haven Company, based in Viroqua, Wisconsin, makes mobile shade structures for use by beef and dairy farmers. The products are designed to help farmers avoid production losses of up to 20% to 30% that can occur when grazing animals are heat stressed. The 40-foot-diameter havens can be moved to different spots in a pasture using an ATV, or they can be transported farther away on a truck.

Challenges:

The company needed a way to test how well its structures could withstand high winds. It also wanted to provide a way for customers to monitor structure locations and surrounding weather conditions. Shade Haven was challenged to find a solution that could provide near real-time information about:

+ Wind speed
+ Tilt
+ Location
+ Temperature
+ Humidity

Solution:

A remote-monitoring system that includes:

+ A machine-to-machine cellular gateway housed in a weatherproof enclosure
+ Mini-anemometers to measure wind speed
+ Tilt alarms to signal if a structure is no longer upright
+ Sensors monitoring temperature and humidity
+ GPS sensors to provide location information
+ A user-friendly interface
+ Reliable, extensive coverage over the advanced Verizon network

Results:

The system helped achieve:

+ More accurate product testing.
+ Increased productivity for farmers.
+ Opportunities for more humane animal husbandry.
+ Improved decision-making capability for farmers.

Challenge

An obvious question from customers is how much wind can the shade structures withstand. Answering that was a challenge. The umbrella machines are too large to be lab-tested in a wind tunnel, so to provide customers a definitive answer, the company needed another testing option.

"We wanted to get a better idea how our products can handle the environment," Bergquist said. The company also wanted to provide a way for farmers themselves to monitor the structures—and surrounding weather conditions—in remote pastures.

"WE WANTED TO GET A BETTER IDEA OF HOW OUR PRODUCTS CAN HANDLE THE ENVIRONMENT."

—Peter Bergquist, Vice President of Operations, Shade Haven

Solution

The company began talking with Verizon experts about wireless-monitoring options that would provide the product information Shade Haven needed. That led to the deployment of a cloud-based remote-monitoring solution from Coreon Group, operating on the advanced Verizon Wireless network.

A machine-to-machine cellular gateway, housed in a weatherproof enclosure, remotely communicates equipment status up to 24 hours a day. A mini-anemometer measures wind-speed information, and a tilt alarm sends a signal if a structure is no longer upright. The product also records information on structure location as well as temperature and humidity in the sun and shade.

End users, whether the manufacturer or the farmers, can receive alarm messages, interval sensor data, GPS readings and reports of historical data wirelessly through a PC or mobile device.

Impact

Shade Haven can now better test the performance of its equipment in real-world environmental conditions, which helps with its marketing efforts and product improvement. The company can also provide farmers with a way to monitor their Shade Haven structures and conditions surrounding them to help improve farm operations.

Equipment sensors alert users of high winds so they can take down structures if needed. Or if the umbrella has fallen over, farmers can quickly locate it and restore it to its upright position. Plus, farmers can get a better feel for the conditions their animals are experiencing and can make adjustments accordingly.

"They can essentially have a weather station that's giving them more or less real-time information about their farm," Bergquist said.

Explore how a remote-monitoring solution can benefit your organization. Contact your Verizon Wireless business specialist or visit us at verizonwireless.com/contactrep