Mash Mechanix Uses IoT Sensors to Remotely Monitor and Manage Operations in its Brewery/Taproom

Customer	:	Mash Mechanix
Industry	:	Hospitality (Bar/Brewery)
Solution	:	IoT
Application	:	IoT Sensor Monitoring
Product	:	AlertWerks AW3000 IoT

BACKGROUND

Mash Mechanix Brewing Company, a 3-year-old brewery/taproom in Colorado Springs, CO is housed in a 110-year-old brick building. The tap room serves downtown Colorado Springs, brews onsite, and offers a limited food and drink menu. The brewery area contains equipment to ferment and condition the beer for optimum taste and quality. The facility has coolers, chillers, fermentation tanks, bright tanks, and CO2 tanks located indoors and outdoors.

Black Box Product Manager Bob Antoniazzi contacted some of the many area Bar and Restaurant Expo (BRE) establishments in the community. A referral led him to talk to Leif Anderson of Mash Mechanix about how he could make his bar/taproom smarter.

CHALLENGE

In the brewery area, the customer faced the challenge of monitoring fermentation tanks for temperature and specific gravity, and bright tanks for temperature. With multiple coolers and chillers (including a very large cooler room in the basement of the building and a big chiller on the roof as well as remote coolers located nearby), and CO2 tanks to maintain, there is potential for something to go wrong during operation. Temperatures might go out of range, chillers could switch off, someone may leave a cooler door open. Also, limited staff members are available to check operations on a regular basis.

The business was looking for a solution to be able to keep tabs on their brewing and storage equipment at any time, from any location. They needed the ability to remotely track key environmental parameters of the facility for safety measures and to help ensure the highest level of product quality control. All parameters must be accessible via a web interface with customizable dashboards.

SOLUTION

Bob explained how smart sensor technology provides an easy and unobtrusive way to monitor the equipment at Mash Mechanix. The Black Box AlertWerks AW3000 consists of a gateway and multiple temperature, humidity, door open, and more sensors.

Why did Mash Mechanix need a "smart" sensor solution? AlertWerks eliminates downtime and waste, which reduces expenses. Sensors automatically flag unknown system errors and failures for real-time equipment status visibility so employees can be proactive instead of reactive when solving problems.

Temperature, humidity, and door open sensors monitor fermentation and bright tanks, chillers, and coolers in the facility for optimal operation. AlertWerks addresses the "what ifs" before they create problems.

Door open sensors also monitor restrooms, analyze how often they are used, and when they need to be cleaned. The rate of use of restrooms in the tap room correlates to how long people are staying in the bar.

A wireless solution, AlertWerks is simple to install and does not interrupt operations. Less wires makes for a neater installation and this LoRaWAN wireless gateway and sensors do not impact existing Wi-Fi® operation. LoRaWAN technology works long-range (up to 6 miles), can penetrate walls, go through metal, is very secure, and can be customized. In fact, when Black Box installed the AlertWerks IoT solution at Mash Mechanix, all existing systems remained up and

running with no interruptions. AlertWerks does not replace installed systems, but enhances system management and operations.
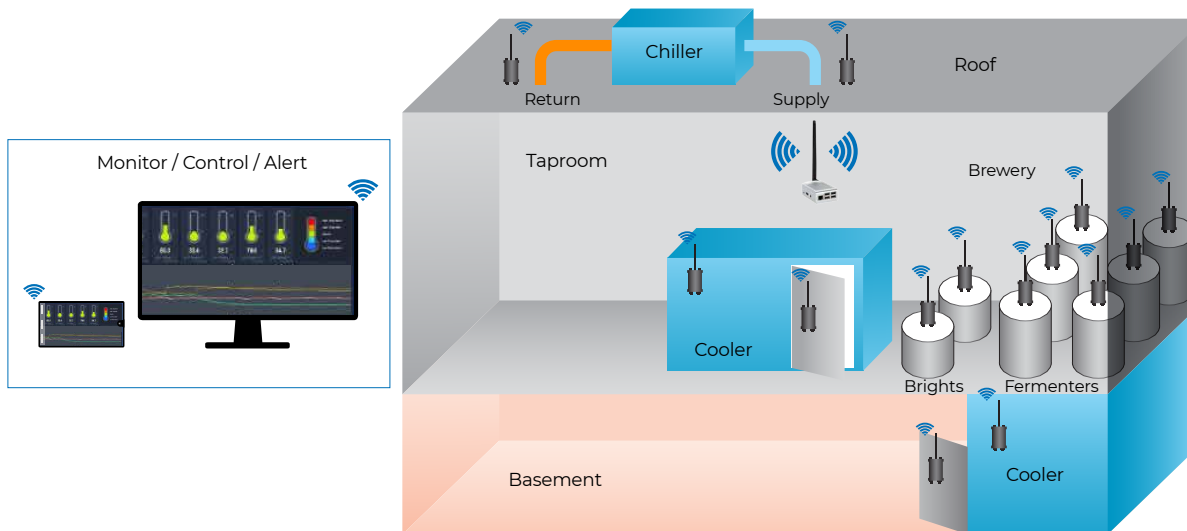
Sensors operate 24/7 to relay when system parameters are out-of-range by sending automatic alerts, alarms, and analytics directly to a user's cellphone, laptop, tablet, or computer. Intuitive dashboards deliver a user-friendly, easy-to-understand management interface.

Wireless sensors use very little battery power; battery life is typically 5 to 7 years. Plus, the sensors are a breeze to install – simply attach them to the wall with zip-ties, hook & loop fasteners, or screws. About 20 sensors were installed at the facility, with the potential to add more sensors as the business expands.

RESULTS

Mash Mechanix now has a non-disruptive system installed in their existing environment. AlertWerks AW3000 IoT serves as a real-time insurance policy. Business owners know what is going on and happening at all times. AW3000 enables Mash Mechanix to keep an eye on environmental factors, maintaining the quality and taste of the beer brewed on-site by monitoring fermentation and bright tanks, chillers, and coolers for temperature, humidity, and other environmental factors. Door-open sensors monitor restrooms for timely cleaning and maintenance.

A hands-off system sends temperature, humidity, door open, and power out alerts, alarms, and analytics to employees' devices. They can use dropdown menus to set or reset temperature levels, cooler doors, and counters, view battery status, even update thresholds if they need to change. A historical data screen shows past information.

Leif Anderson

I am impressed with the whole concept of monitoring the brewing operation remotely. Plus, I have the assurance of a system that can do everything I need in the entire building from my cellphone at the same time. I have never seen a system so robust: it's been in operation for 8 months with no network issues, no equipment failure, no alarms – the system has worked since the day they put it in.

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