Schools Can Overcome Common Cafeteria Challenges

Comnexiom
CASE STUDY

We frequently hear about the tight budgets that our public schools face. How small can those budgets be? Consider how little per student most schools have to make a meal for our children—from $1.25 to around $3. That's it. So, a lot is riding on school cafeteria leaders making the most of such a small yet critical budget.

This means that everyone has to manage school cafeterias to the cent—from the school district nutrition director to the lunch-line server. There's no room for anything to go wrong. Anything that could be considered preventable. Processes must be put in place to prevent unplanned expenses like food spoilage and equipment malfunction.

Read how we helped Llano Independent School District (ISD) remotely monitor cafeteria refrigeration and freezer temperature using innovative and cost-effective solutions connected to the Internet of Things (IoT).

Spoiler alert: The ROI is significant, considering the district has saved thousands of dollars by preventing spoiled food. They did it with data from fast-install IoT sensors and meters. The solution is all easily managed using an online dashboard on a smartphone or computer. Plus, alerts via email, text, or call.

Challenges

In Texas, Llano ISD has a rich, strong tradition of excellence in education. The school district serves approximately 1,800 students across four campuses that include:

- Two elementary schools
- One junior high school
- One high school

Community involvement, parent participation, dedicated staff members, and outstanding students combine to make Llano ISD one of Texas's best.

But Lajuana Wimberley—the former child nutrition director—didn't rest on the district's high reputation. She carefully balanced her budget alongside nutrition and health standards to find ways to improve her cafeteria management and prevent costly expenses.

Wimberley saw that:

- Some of the cafeteria walk-in coolers and freezers went down a few times every year due to power outages, blown fuses or breakers, and part malfunction or failure.
- Each year, the school district had to scrap the contents of at least one walk-in cooler or freezer due to spoilage.
- While cafeteria staff was on-site during school hours, sometimes they couldn't tell if there was an issue with the walk-ins until it was too late.
- The district's current manual processes were not enough to meet food safety regulations and protect against the possibility of food inventory loss.

She realized their intermittent manual monitoring didn't align with the district's food safety standards and health regulations. She wanted to comply entirely with the Hazard Analysis Critical Control Point (HACCP) food safety management mandates of the U.S. Department of Agriculture (USDA) and other local, state, and federal food safety regulations.

Wimberley decided the district needed:

- A reliable temperature monitoring system that would alert her and managers immediately if temperatures in walk-in coolers and freezers were fluctuating too far out of range.
- A solution that's simple to install and use with high value in cost, features, and reliability.

After reviewing four different options, she ultimately decided on the automated Remote Monitoring Solution to track cooler, freezer, and food temperatures, fully comply with all critical food safety requirements, and streamline cafeteria operations using actionable data.

Solution

Wimberley and her staff self-installed:

- Leaded Temperature Sensors outside of walk-in coolers and freezers with temperature probes running between door seals and attached inside.
- The Sensor Management and Remote Monitoring Software for use on staff smartphones and computers—virtually anytime, anywhere.
- A gateway at one end of each cafeteria to protect and communicate data sent to and from sensors.

Sensors sent data wirelessly to the gateway, then the gateway aggregated the data and sent it to the Software. The Temperature Sensors were set up in the software to check and record temperatures every hour. Wimberley set up notifications to alert staff via text if temperatures were outside of her preset limits, allowing staff to respond immediately.

Results

Within the first few weeks, the Solution alerted the district of a freezer's fuse blowing out. It happened over a weekend, which could have resulted in several thousands of dollars in spoiled inventory. Wimberley said school district leaders were pleased with their choice to deploy the Remote Monitoring Solution in all of their cafeterias.

Using our comprehensive monitoring solution, Llano ISD can:

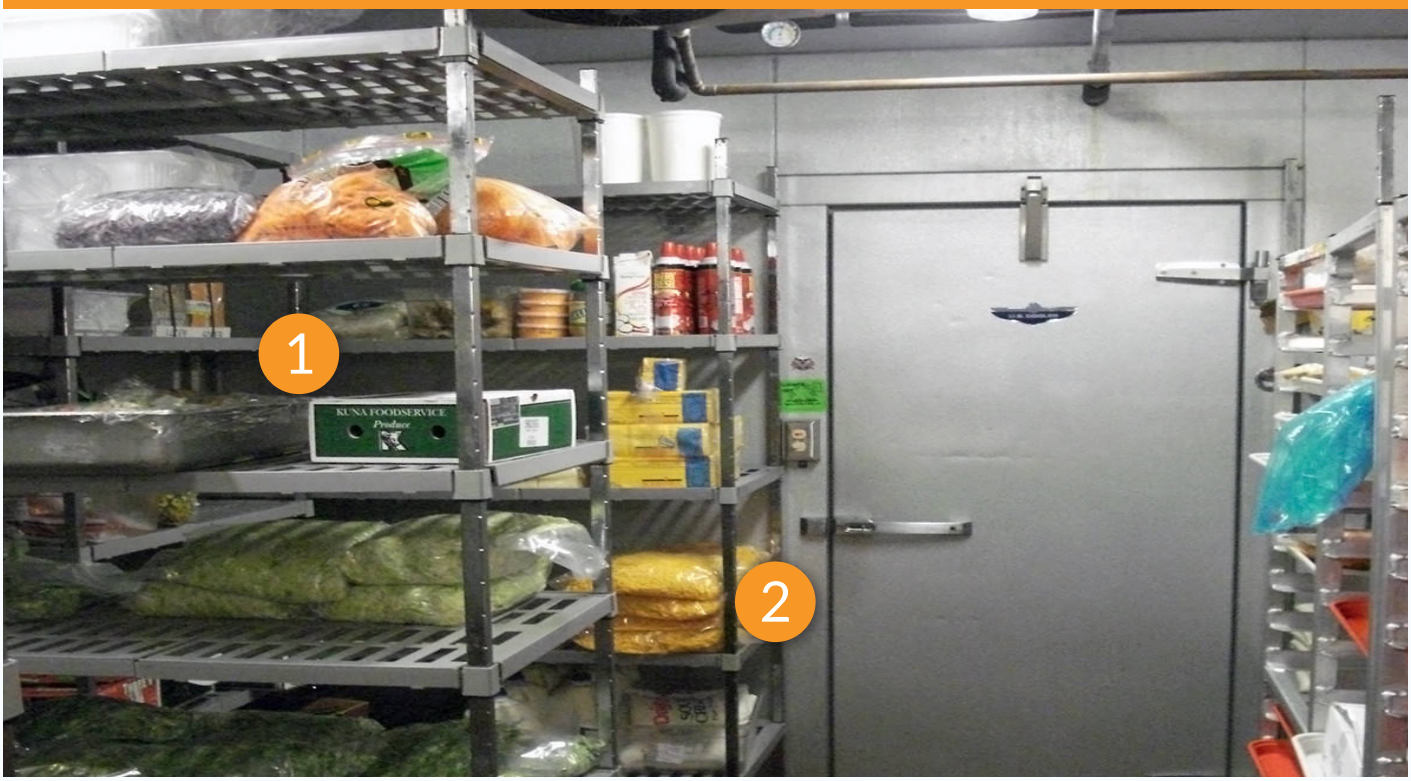
- Ensure that food stored in coolers and freezers is kept fresh and maintains its nutritional value.
- Save money by avoiding potential product spoilage in walk-in coolers and freezers.
- Automatically track and document food storage temperatures to comply with regulations.

With the new Remote Monitoring Solution in place, the district also improved and automated data-logging practices to comply with the Code of Federal Regulations from the U.S. Food and Drug Administration (FDA). Our Temperature Sensors deliver reliable readings that are authentic, encrypted, and confidential. We helped ensure store sensor readings and records were secure and logged appropriately via automated data-logging to the cloud for easy access and retrieval. Our solution also helped the district meet the temperature requirements of its HACCP compliance program.

ROI: Soon after using our Solution, Wimberley optimized their temperature monitoring and saved thousands of dollars by avoiding food spoilage.

"We're impressed with these wireless sensors! They do exactly what we need them to do. They've saved us from potentially costly issues with our walk-in coolers and freezers," Wimberley said.

Temperature Sensors Handle Food Safety with Ease



1

Standard Temperature Sensors

Standard Temperature Sensors measure a range of conditions from -40°C to +125°C (-40°F to +257°F). If the temperature exceeds your preset thresholds in a room or cooler, you get an alert via a text, email, or call.

2

Low Temperature Sensors

You can know in an instant if a freezer or refrigerator temperature is fluctuating outside of your preset parameters. Keep all your food storage at safe, required temperatures. Our Low Temperature Sensors monitor -200°C to +162°C (-328°F to +325°F) with easy logging and graphing.

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