



# Connectivity Is What's on the Menu

*C-store chain connects ovens to automate menu updates*



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Like many convenience store (c-store) chains that have expanded their offerings to include fresh foods, maintaining food quality, safety and consistency throughout the store network are among their top priorities. C-stores are also realizing that competing in this fast food arena requires frequent menu changes to entice customers with an ever-changing variety of offerings. Adding to this fresh food challenge is the menu update process, which typically involves labor-intensive oven programming each time new menu items are introduced.

One leading c-store chain facing these same growing pains recently turned to Emerson and their preferred oven manufacturer to help them address their manual menu update challenges. With multiple ovens across most of its 800+ stores, the chain's inability to effectively communicate these menu updates was becoming a growing operational challenge. The process involved distributing USB sticks with cooking instructions to each store, relying on staff and managers to manually upload the information to individual cooking ovens, and then verifying that the new menu items were ready to be prepared.

As the c-store chain had successfully established a strong reputation for fresh food — offering breakfast, lunch and snack items and up to a dozen annual menu changes to correspond with seasonal and regional variations — its new food-ready capabilities became a focal point of its advertising and brand promotion strategies. To support this new sales motion, it needed a menu update strategy that would enable the quick and efficient implementation of its new food offerings.

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#### **Connecting the commercial kitchen**

The chain's operators turned to Emerson to address these challenges, and we partnered with their oven manufacturer to begin devising a solution. With our experience in the application of internet of things (IoT) technologies in foodservice environments, we proposed a *connected kitchen* approach that would allow the chain to transform its existing ovens into smart devices. This connected infrastructure would enable communication among ovens to facilitate an automated internal menu update process.

Emerson and the OEM worked together with the chain's IT team to create a solution that would not only connect the ovens but also help achieve the chain's goal of providing the necessary security measures to ensure that their proprietary recipes were kept secure. After reviewing multiple options for data storage — including the



Emerson Cloud — their IT team selected a connected architecture comprised of the following components:

- Installing a new custom control board on existing ovens
- Connecting the ovens to the current stores' Wi-Fi networks
- Creating a proprietary FTP site to house menus and protect their competitive data

With this solution in place, the chain was able to remotely push recipe instructions to multiple ovens across their store network. The new process eliminated the manual USB stick distribution and oven programming that had been required at each store by automating the menu update process and confirming the recipe uploads upon completion.

#### **Process improvements and profit increases**

The impacts of the oven connectivity delivered results that exceeded the operator's expectations:

To minimize disruptions to store operations, new recipes were remotely distributed at night during off hours. Ovens were programmed to confirm when they had received the new cooking instructions and were essentially ready to prepare advertised items — even as soon as the next day of operations. This hands-off method immediately provided a much simpler means for updating menus, eliminating manual distribution and training that had been

required at each store. This automated process also gave the chain the assurance that new foods were available to match their advertising and promotional investments.

In addition, this process automation saved the chain \$100k annually in operating costs compared to the manual USB method, while delivering the following benefits:

- More consistent, high-quality food experiences across the store network for customers visiting multiple locations
- Improvement in control of cooking temperatures with automated confirmation versus relying on manual methods
- Flexibility and speed in updating menus, facilitating the delivery of more limited-time offers, seasonal specials and new item introductions proven to boost store traffic and sales

The communicating ovens were also equipped with the capabilities to push remote firmware updates, supporting design and performance improvements uncovered by the OEM.

While these modified, communicating ovens serve as the chain's first foray into connected kitchen capabilities, the infrastructure they now have in place provides a solid foundation for future kitchen equipment connectivity. The chain is currently evaluating the expansion of its connected kitchen into additional equipment areas.