

Technology Today

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THE CONNECTED RESTAURANT

How connectivity can help restaurants slash costs

Depending on the type of restaurant you operate, your kitchen can contain any number of appliances, including dishwashers, hot food holding cabinets, fryers, steam cookers, ovens, refrigerators and freezers, ice makers, water heaters and more.

And all of these appliances use a significant amount of energy. For example, Energy Star reports that a typical electric deep fat fryer uses more than 18,000 kilowatt-hours (kWh) of energy per year, which could cost more than \$1,700 in electricity.

Even worse, a lot of the energy consumed in restaurant facilities is due to inefficiency. According to Pacific Gas and Electric's Food Service Technology Center, 80 percent of the \$10 billion annual energy bill for the commercial food service sector is expended by inefficient food cooking, holding and storage equipment.

Given that a restaurant's profit is typically only 3 to 9 percent of total revenue, managing inefficient systems can be incredibly important in reducing costs and increasing overall revenue.

But restaurant facility operators and their facility teams are busy, and managing the efficiency of each kitchen appliance—let alone all the appliances throughout their restaurant portfolio—can be a daunting task. But what if each of these appliances was "connected?"

The Internet of Things and Your Restaurant

According to analyst firm Gartner, by 2020 there will be 25 billion connected devices as part of the "Internet of Things." This connection is allowing a wide variety of economic, social and environmental sustainability benefits across many verticals, such as real-time traffic planning, remote healthcare services and information, and remote security monitoring.

The Internet of Things (IoT) works by connecting tiny sensors and networking functionality to everyday objects. In the case of a kitchen appliance, a sensor would track the flow of electricity consumed by the appliance, and the networking technology transmits the information out to a hub or gateway, along with the data from all of the other sensors.

The IoT is great for commercial kitchens, but also for the rest of a restaurant, connecting lighting, HVAC, signage, metering water usage and other systems on a single network. This allows facility managers to access the systems, analyze performance data and act on findings to ensure all systems are responding appropriately, efficiently and to make changes accordingly.

Keeping Your Data Secure

But while the IoT and all of its connected devices can deliver a significant amount of benefits, there is also a very real danger in connecting your systems to other networks that might have credit card or other personally identifiable information on them.

One way to avoid such an issue is to connect all of your appliances on a separate network, using wireless machine-to-machine (M2M) communication. Not only does M2M leave hackers with no point of entry, implementing this energy management system (EMS) is a quick and painless process with no added work required from your IT department.

Kitchen Connectivity

Restaurant facilities across the country have already started combating inefficient appliances and systems by implementing EMS. But these may only manage one system at a time, such as HVAC or lighting, or refrigerators and freezers. Aggregating data points from various appliances and systems throughout the kitchen can be difficult to manage and make sense of. But by connecting the systems, all of the data is collected into the same database for facility managers to effectively manage.

Analyst firm Gartner believe that by 2020, the connected kitchen will contribute at least 15 percent savings in the food and beverage industry, while leveraging big data analytics.

But the true value of the connected kitchen and EMS comes from harvesting the rich data to make better decisions about the energy efficiency of equipment, lighting, HVAC and other systems. While these decisions can significantly reduce energy consumption by up to 50 percent, it's difficult for restaurant facility managers to find the time and resources to process and validate the millions of data points that are generated daily.

According to recent information by IBM, 90 percent of all data generated by devices such as smartphones, tablets, connected vehicles and appliances is never analyzed or acted on. As much as 60 percent of this data begins to lose value within milliseconds of being generated.

But the data is invaluable, so what restaurant facility managers need is help in understanding and taking action on this data. Enter Energy Management as a Service (EMaaS).

Energy Management as a Service

Energy Management as a Service has emerged as a more efficient way to help facility managers make the most of this data for maximum energy efficiency and cost savings. With EMaaS, facility managers can join forces with an experienced team of dedicated energy experts who manage and make sense of the vast amounts of data coming in.

With EMaaS, restaurant facility managers receive immediate alerts if there are any system issues, but the dedicated EMaaS team can also dispatch technicians on behalf of the facility manager to quickly address the problem when needed. Facility managers have visibility across key assets while improving operational efficiency and enhancing overall guest comfort.

The cost to monitor the energy consumption for any one appliance can be as low as a few hundred dollars using technology available today; retrofitting appliances to remotely control their individual loads can be costly. Increasingly, we will see appliances and many other pieces of restaurant equipment come into the market, network-enabled and ready to be both remotely monitored and remotely controlled.

By connecting all of the appliances and systems in your kitchen, implementing an energy management system and taking control of the data points, you can ensure that your restaurant facility is achieving maximum energy and cost savings.

Iffy Hasan, a technologist with a focus on practical solutions to complex problems. As Chief Technology Officer, Hasan brings the EnTouch team an unrelenting passion for perfection.