

The Packer

Tom Karst

June 25, 2020 11:18 AM

Connected world gives greater supply chain visibility



Helping to preserve food safety and quality, monitoring devices connected to the internet of things (IoT) are giving produce operators more visibility into their supply chains compared with a decade ago.

Those tools are needed more than ever with the escalation of the e-commerce grocery business, one technology provider thinks.

“With today’s connected internet of things (IoT) monitoring and tracking infrastructures, operators now have better potential visibility into each step of food’s journey and even the possibility for comprehensive cold chain traceability,” said Amy Childress, vice president of marketing and planning, Cargo Solutions for Emerson.

Today, she said supply chain operators are able to monitor, control and track a variety of conditions necessary for preserving food quality, including temperature, humidity, the presence of ripening agents, lighting and much more.

With international sourcing of fresh produce, she said overseas shipments can last from two to four weeks, with as many as 20-30 steps involved from farms to consumers.

Rise of e-commerce

The growth of the e-commerce grocery business began before the COVID-19 crisis, but the trend has accelerated dramatically.

The e-commerce business model has introduced new refrigeration requirements, but Childress said many of the walk-in cold storage lockers and reach-in coolers installed for these purposes were undersized, especially after COVID-19.

“The majority of these coolers were not designed for high volumes of traffic and frequent opening/closing of doors, which causes an infiltration of warmer, humid air,” she said.

The big volume moving through e-commerce grocery since the start of COVID-19 left some refrigeration systems overmatched and led to curbside pickup delays.

“Retailers need new refrigeration strategies to manage the high volume of orders, maintain precise temperatures, and keep up with demand,” she said.

“It’s also important to remember that this is an opportunity — but retailers must be prepared to get it right the first time.”

Data shows half of customers will stop shopping online with a retailer if they are not happy with the service, Childress said.

Beyond 3G

For technology solution providers like Emerson, Childress said the evolution of wireless networks is relevant to future product offerings.

Emerson, for example, has 4.5 million connected pieces of equipment monitored globally by Emerson’s Retail Solutions.

“In many parts of world, the mobile device industry is beginning to outgrow the use of 2G and 3G networks, and many of these networks are in the process of being turned down,” she said.

That will affect any legacy real-time tracking device that relies on 2G and 3G networks to transmit data.

“That’s why we’re currently launching new devices that utilize emerging technologies such as Category M, or “Cat-M” and Narrow Band internet of things, or “NB-IoT” — which are coming online as cellular providers introduce 4G and 5G networks,” she said.

On Feb. 5, Emerson launched its next-generation 4G/Cat-M real-time trackers at the Fruit Logistica trade show in Berlin.

“This latest release is designed to bridge the gap between 2G and these emerging technologies to ensure uninterrupted tracking and monitoring,” she said.

Emerson also has introduced Oversight 2, a cloud-based online portal that serves as a real-time resource for monitoring in-transit shipment information such as temperature, location and other measurements which may affect the quality of perishable cargo.

On the refrigeration side, Emerson recently launched the Copeland Digital Outdoor Refrigeration Unit, X-Line Series.

Childress said the outdoor refrigeration unit provides refrigeration for medium-temperature walk-in coolers, display cases, and food preparation areas that are commonly found in convenience stores, small-format stores and restaurants — even supermarkets making the transition to e-commerce business models.

In addition, Emerson’s ProAc Connect+ Enterprise Management Software provides near real-time access to critical information to help retailers immediately track, triage and respond to issues across their multi-site network and meet quality and food safety expectations, she said.