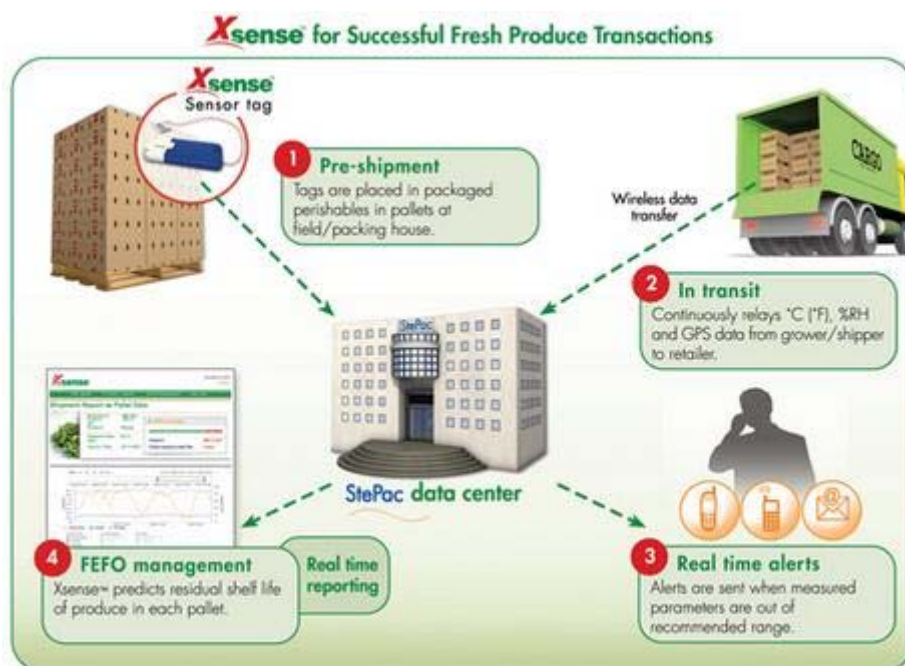


Israel: Perishables Quality Monitoring with Xsense™

Interest in the Quality Monitoring program has been strong and StePac Israel is excited to report that the first round of commercial pilots have been successfully completed. Over the years, as StePac expanded and improved their Xtend® technology for modified atmosphere/modified humidity packaging, it became clear that sophisticated breathable MA packaging, however effective, was only a small link in the logistics cold chain. "If we wanted to help our customers complete successful trade transactions, a more systemic approach, in which all aspects of post-harvest handling were sufficiently addressed, must be implemented."



It became apparent that an adequate system for monitoring produce freshness and quality as it travels through the supply chain was missing. Data loggers can record the temperature of a specific area in a truck or container at a specific moment in time, making this information available post mortem. But they do not tell us enough about the actual quality of the perishables being transported — to say nothing of alerting in real time when parameters are out of range. "This led us to develop the Xsense™ Perishables Quality Monitoring Program to minimize the unknown factors relevant to produce quality in order to aid suppliers to successfully deliver perishable merchandise. Xsense was designed to provide information about the quality of products pre-shipment, in-transit and post-arrival."

Here's how it works:

1. Pre-shipment — Disposable Xsense sensor tags are placed in carton/package with perishables. We recommend one in each pallet. Temperature and relative humidity monitoring begin as soon as sensor tags are activated.
2. In-transit — During land and sea transport, Xsense sensor tags continuously monitor and relay data to Xsense customers. GPS tracking of shipment progress is also relayed.
3. Real time alerts — When temperature or humidity falls out of customer specified range or when shipment is off route, logistics managers and other stakeholders are immediately alerted, enabling corrective actions to be taken before it is too late.
4. Post-arrival — Xsense sensor tags continue to monitor produce while in storage. With data recorded and stored from original packing point through to distribution center, supply chain logistics traceability is guaranteed.

Commercial pilots

Commercial pilots in the fresh produce industry were successfully completed this spring in Israel, Turkey and the UK with selected StePac customers. The focus of these shipments was on in-transit performance of the system. Pilot runs included cross-Europe shipment of fresh produce via land and sea in refrigerated trucks and containers. All shipped produce was packaged in Xtend bags at country of origin packing houses where an Xsense tag was placed inside the Xtend bag of one carton on each pallet. The tags immediately began transmitting and provided real-time information during transport and subsequent storage at distribution hub.

Saving time and money

The Xsense system proved its worth on the first day of one of the cross-Europe transports. The shipment's acceptable temperature range was set for 0-3°C (32-37°F). When the temperature of a pallet situated close to the cooling unit fell below freezing point, automatic alerts were sent via SMS and email to the logistics and packing companies. They in turn, contacted the lorry driver who took corrective action and averted potential damage of several thousand dollars.

The first Xsense customers were extremely pleased with the real-time on-screen GPS tracking of their produce while in transport on the road. They reported that the ability to view their produce's exact location on their PC screens at any time, gave them a real sense of control, eliminating frustration at having to rely on the reports of others (with sometimes conflicting interests). Not surprisingly, the Xsense equipped transports recorded the fastest delivery times for the season.

Making FEFO a reality

After reviewing the Xsense recorded data from the commercial pilots, we learned that it is not uncommon to experience temperature variations of up to 5°C (9°F) within the confines of a truck or container. While it may not always be feasible to take corrective actions during transport, knowing which pallets were exposed to higher temperatures is critical to logistics managers for prioritizing produce distribution. With this vital information at their fingertips, distributors can now practice first expired first out (FEFO) management.

Moving forward

Israel Ben Tzur, CEO of StePac summed up the first commercial trials: "So far, the pilots went according to our plans and have exceeded our expectations. We see this program as a technological breakthrough helping the players of perishable products industries complete successful transactions. In particular, the Xsense program superbly augments our Xtend MA/MH technology in helping the cold chain industry deliver premium quality, fresh produce to market."

Udi Aviran, Xsense Commercial Manager, adds that; "Although we have chosen to enter the perishable cold chain industry with an emphasis on the fresh produce market, we believe that other perishable logistics sectors will benefit from the Xsense program. We are already finalizing plans to begin commercial pilots with pharmaceutical manufacturers and distributors before the end of this year."

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