

Paperless Inventory Movements *Provide Real-time Visibility* For York International.

CASE STUDY

YORK INTERNATIONAL The implementation of a second-generation radio frequency (RF) system is saving time and money by providing real-time visibility of materials on hand and accurately tracking material locations. "The new RF system automatically captures the location of all material during the putaway operation so replenishers no longer have to spend time searching," said Linda Dexter, Materials Supervisor for York. Dexter adds, "The new RF system's seamless integration with SAP means that we know exactly what we have on hand at any instant, making it possible to reduce inventory levels."



Several years ago York International implemented a first generation RF system at three plants that interfaced with a legacy ERP system. With the company's move to SAP R/3 4.7, they decided to upgrade the RF system with the goal of improving transaction efficiency and taking full advantage of SAP capabilities. York selected PEAK Technologies, a SAP systems integrator, that not only provided SAPConsole transaction development, installation, training, and support at three different facilities in the US and Mexico, but also assisted with defining the SAP configuration of the Warehouse Management (WM) and Production Planning (PP) modules. Then together, York and Peak chose LXE to provide rugged reliable mobile computers, flexible enough to transition from a vehicle-mount computer to a wireless handheld computer in a matter of seconds.

First Generation RF System

YORK International is one of the largest independent suppliers of heating, ventilating, air-conditioning, and refrigeration (HVAC&R) equipment in the United States and a leading competitor in the industry internationally. The company's residential and light commercial division provides central air-conditioning systems, heat pumps, gas and oil furnaces, indoor-air-quality accessories, replacement parts, and single-package units which combine gas heating and electric cooling for homes, apartments, condominiums, restaurants, shopping centers and other, small commercial facilities. This division operates a plant in Wichita, Kansas with about 18 buildings comprising 1.5 million square feet and smaller facilities in Norman, Oklahoma comprising 600,000 square feet, and Apadoca, Mexico comprising 300,000 square feet.

These three plants originally ran a legacy ERP

system on a host computer. Several years ago, the plants implemented a RF system based on older technology. The system provided substantial improvements in productivity by allowing the finished goods department to scan in a product as it was picked to ship. Expeditors were assigned to each production line and spent most of their time checking the bins and writing requisitions as the bins were depleted. The written requisitions were dropped into a box and collected by replenishers from time to time. As a result, purchasing sometimes had to scramble to arrange rush shipments of items because they were unable to see that an item was running short until it was nearly out.

Selection of Systems Integrator

When York made the decision to move to SAP, the division decided the time was right to upgrade the wireless RF system. They looked for a systems integrator with the ability to handle the complete job including site planning, RF infrastructure design, hardware installation, training and support, and SAP integration at all three facilities. York selected PEAK Technologies because PEAK was capable of providing simultaneous installation, training, and support at all three locations, making it possible for all three sites to go live on the same day as SAP. PEAK's SAP expertise was useful not only in the development and integration of RF transactions but also in providing SAP transaction customization and resolving SAP configuration issues during the go live phase. PEAK's process encompasses the development of a full systems requirements definition, mutual agreement on project goals and the development of an integrated solution designed to meet those goals with the least amount of risk.

LXE

Breezy Convertible Computers

PEAK installed an 802.11b RF infrastructure using Cisco wireless access points and LXE MX3X computers. The MX3X, with a powerful Intel XScale® 400MHz processor offers the advantage of conveniently converting between a handheld computer and a vehicle-mount computer. The units are mounted on forklifts most of the time but can be taken off if the drivers need to get off their trucks for a receiving operation. The unit's full-shift battery automatically takes over when it is removed from the forklift mount.

In developing the RF transactions, the PEAK team took advantage of the built-in functionality within the SAPConsole development environment whenever possible. Some of the SAP transactions, such as putaway and picking, simply needed to be modified to handle movements of consignment inventory to increase their efficiency. Other transactions, such as purchase order receiving, did not exist within SAPConsole and had to be created. Every transaction updates the SAP database in real time, providing enterprise-wide verification and visibility. If a driver scans in six items when they were only asked to pick five, the system immediately notifies them of the error.

Improvements in the Operation

The completeness of the RF transactions means that York is able to operate nearly paperless, which provides substantial time savings and cost reductions. The only paper that plays any role in the process is the packing slip that arrives with incoming items. Drivers can either scan in bar-coded labels on the outside of the packages or type the information into the handheld to receive the items immediately into inventory.

PEAK substantially improved the putaway transaction by having the operator scan the bin where the item is being put away and updating the bin location in the SAP database. This made it possible to create another transaction that allows the operator to press a hot key, enter a part number, and see the bins where the part is stored. Operators can also press a different hotkey and scan the nearest bin to receive a list of the closest empty bins or all empty bins in the warehouse.

The materials needed to support production are kept in kanban bins near the production lines while overstock is located in the warehouse. When HVAC units are completed, they are received into purchased goods inventory and the components are automatically backflushed out of the kanban bins based on the bill of materials. When the bin reaches the minimum stocking

level, SAP automatically generates a replenishment transfer order that immediately appears on the users RF unit who is assigned to that production line. Each replenisher is assigned to a specific production line and sees only the requests for that line but also has the ability to log onto another line to help out when needed. The replenisher is directed to the overstock bin to pull the product and take to the production line kanban bin. The user scans the overstock bin, enters the quantity and scans the production bin when they drop the product off and SAP is updated immediately. No more waiting up to three days for the replenishment information to be entered into the system. York has found that having real-time visibility has made it possible to safely reduce minimum stocking levels.

Cross-referencing old and new part numbers

One unusual problem that the PEAK team needed to overcome in this application is that each of the three sites used their own individual part numbering system for the exact same material. When SAP was installed it generated a common part numbering system for all sites worldwide. There was no possible way to re-label all of the inventory in each of the sites and it would take the drivers at the plants some time to become familiar with the new part numbers. PEAK overcame this problem by building a custom table in SAP that cross-references the new part numbers with the old numbers from each of the plants. Users in any transaction can scan or type in either the old or new numbers and they are automatically crossed referenced to the new SAP material number. The users can also query the database to obtain the old number based on the new number or vice versa.

Another unique RF transaction created by PEAK was instant messaging. The instant messaging provides for two-way communications between supervisors and operators right on the RF units. The large physical footprint of the York facilities sometimes makes it hard to notify users of important information. PEAK provided an RF transaction that allows supervisors to enter messages on their PC screens that immediately transmit to a specific RF user or to all RF users logged on at that moment. The RF users see the message on their RF units and have to enter a response for verification of receipt. The response is then transmitted back to the supervisor's PC screen.

"SAP and the new SAPConsole RF system has substantially improved warehouse efficiency," Dexter concluded. "Everyone in the organization, from planners to schedulers to supervisors to purchasing agents,



has complete visibility to see exactly what we have and where it is at any given moment in time. This knowledge helps us move material more quickly through the plant, which helps us avoid production downtime while increasing productivity and reducing inventory. The ability of the new system to store the location of material speeds up the replenishment operation by eliminating the time spent previously looking for the right items. PEAK not only configured and installed our wireless system, they made substantial improvements to our SAP configuration, such as adding the ability to cross-reference old and new part numbers. They did everything we asked them to and came back to us with additional ideas to improve our operations."

PARTNER HIGHLIGHTS



PEAK Technologies, an RR Donnelley company, is an international provider of automatic identification and data collection (AIDC) systems, enterprise mobility solutions and ongoing service and support. PEAK's primary applications include solutions for warehousing, manufacturing, distribution and field-based operations. PEAK's market leadership and strong financial management provide stability and assurance that solutions are delivered with long-term support. Headquartered in Columbia, Maryland (USA), PEAK Technologies has more than 800 employees with locations throughout the United States, Canada, Mexico and Europe. For more information, visit www.peaktech.com, email info@peaktech.com, or call PEAK at (888) 275-7325.

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The logo for LXE, consisting of the letters "LXE" in a bold, blue, sans-serif font. Below the letters is a stylized blue wave or swoosh that underlines the text.

About LXE Inc. LXE Inc. improves supply chain performance by applying over 30 years' experience developing wireless products and solutions. From wireless computers, advanced auto-ID technologies, and wireless network infrastructure, to our award-winning customer support - LXE's easy-to-use products are as reliable as the people who install and support them.

Based in Norcross, Georgia, LXE also offers a full range of turnkey services, including radio integration, project and installation management, network design, technical support, and repair services. LXE is a wholly-owned subsidiary of EMS Technologies, Inc. (NASDAQ: ELMG), and has offices worldwide. For more information, visit www.lxe.com.