

# Krispy Kreme Removes Holes In Distribution Center

Six years ago, Krispy Kreme Doughnut Corp. (Winston-Salem, NC) was little known outside the Southeast. In 1996, the company began a growth trend that would lead to an international presence. As new Krispy Kreme franchises sprang up, however, the company's distribution system was quickly becoming a relic of its past.

## How About A New WMS With That Doughnut?

Joe Pennell, the distribution manager at Krispy Kreme's Winston-Salem distribution center (DC), began investigating automated systems to help meet demand. During his search for the right distribution system, Krispy Kreme's store count doubled, the company went through a successful initial public offering, and it improved its coffee to complement its 20 varieties of doughnuts. Despite the availability of more than 200 off-the-shelf WMS (warehouse management system) solutions, Pennell couldn't find a single package that could easily interface with its legacy WMS and provide the desired tracking. Krispy Kreme turned to Integrated Visual Systems (IVS) (Matthews, NC), a distribution and production applications integrator, for help. "The software they looked at couldn't do lot serialization," says David Levi, cofounder and president of IVS. "Additionally, Krispy Kreme's enterprise software only offered batch updates and didn't support all the transactions Krispy Kreme wanted."

Not wanting to lower its goals because of the limitations of commercial software, Krispy Kreme asked IVS to write a custom application. IVS began evaluating mobile, wireless, and bar code vendors to find the right combination of products to integrate with Krispy Kreme's legacy distribution system.

## New Distribution Solution Increases Order Fulfillment Accuracy

IVS integrated its software with LXE's (Norcross, GA) MX3 wireless computers and SATO America's (Charlotte, NC) bar code printers. The new solution provided Krispy Kreme DC workers with batch-level serialization as ingredients are packaged into bags. The improved traceability helps workers pick orders and load shipments more efficiently, which has led to tangible improvements in operations efficiency.

"Previously, 86% of the orders we shipped were complete,"

says Pennell. "Since the system was implemented, however, 99.5% of our orders are shipped complete."

Before the start of a shift, the supervisor analyzes the day's workload, matches it with available labor, and creates the picking assignments. When DC workers report for their shift, they are issued LXE MX3 mobile computers. After workers sign in, the terminals display work order assignments, tailored for each employee. The IVS software automatically calculates the most efficient picking, replenishment, and putaway routes. Also, it scans bar-coded record transactions in a fraction of the time it used to take, when done by hand.

Transactions are automatically recorded by scanning bar codes on items and at storage locations. If the wrong item is picked, an error is detected when the bar code is scanned. The system then sends an alert message to the operator. The real-time control prevents shipping errors and ensures inventory records remain accurate. The efficiency gains have enabled Krispy Kreme to reduce staff while increasing overall output from its DCs.

Another reason productivity improved is that Krispy Kreme's wireless computers stay in service. Prior to replacing its terminals with

the MX3 mobile computers, it sent six terminals per month out for repair. After switching to the MX3 units, only three units were sent for repair in a 10-month period. "The MX3 can be mounted on a forklift and taken out of the cradle for use as a handheld," says Levi. The MX3 computer has a horizontal half VGA (video graphics array) display, full alphanumeric keyboard, and an Intel 486 processor, and it supports the 802.11b wireless networking standard.

Krispy Kreme now has three DCs with MX3 computers supporting each facility. In all there are 60 mobile computers in use. Among the three facilities, 350,000 cases per week are shipped globally to 275-plus Krispy Kreme franchises and other grocery stores and convenience stores. Krispy Kreme's doughnut recipe is a valuable secret, but the company is happy to share its recipe for DC operational success: find software that supports your business processes, and integrate it with the right mobile and wireless technology. □



By deploying LXE's MX3 wireless computers and SATO America's bar code printers, Krispy Kreme improved its order fulfillment accuracy from 86% to 99.5%.

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