

TECHNOLOGY & LOGISTICS

IMAGE COURTESY OF VOCOLLECT



Voice-based picking at a Giant Eagle facility.

VOICING APPROVAL

The consensus among industry users of voice-based warehousing technology is that it works well — and could make inroads on bar-code scanning

By LIZ PARKS

The bar code, which recently celebrated its 30th anniversary in food retailing, is mostly associated with product identification and checkout scanning. However, its role in the warehouse is just as important.

While the bar code will remain a fixture in stores for years to come, its service in the warehouse is being threatened by emerging technologies. RFID (radio frequency identification) tags, for example, are starting to be employed by Wal-Mart and others as identifiers for pallets and cases.

A far more immediate threat to the bar code's warehouse presence comes from one of the fastest-growing technologies in logistics today: voice-based workflow systems. These systems use human-voice instructions to help workers do their job faster and more accurately.

One of voice technology's biggest advocates is Ken

Ackerman, president, K.B. Ackerman, a consulting company based in Columbus, Ohio. "I first saw this technology in a Roundy's distribution center in Lima, Ohio, in the fall of 2000," he said. "It was working beautifully. That's when I began to realize this was something pretty important.

"Today, I firmly believe that this is the most important new warehousing technology since bar-coding. It raises productivity far more than bar-code scanning does. It's easier to use. And unlike RFID, it is both practical and cost-effective."

Product-picking out of warehouse storage stations, based on store orders, has been the most prevalent application of voice-directed systems. In the typical scenario, a small, lightweight mobile computer, worn on a worker's belt, uses voice-recognition technology to tell headphone-wearing workers where to pick products

Target Gets Partners To Fight Gift Fraud

By CHRISTINE BLANK

ORLANDO, Fla. — A Target executive reported the company has had greater success in fighting gift card fraud since it began partnering with online auction sites, the FBI and the U.S. Postal Service.

Marie Schwein, senior investigator for Target, said the retailer's investigations into, and prosecutions of, gift card fraud — in-store and online — were not as effective before company executives started looking into the problem two years ago. This effort led Target to seek out partnerships with other organizations.

Schwein made these comments at the National Retail Federation's Loss Prevention and Risk Management & Control Conference here late last month.

"Sometimes local law enforcement doesn't know [how to investigate Internet fraud], so we partnered with the FBI," Schwein said. "Now we are successfully investigating Internet fraud."

Schwein said the FBI and other law enforcement agencies have helped Target investigate "the more serious criminal groups that are impacting our stores." She declined to provide specifics.

For its part, the FBI wants to work with retailers to combat online fraud. "Businesses are going to see it on their system first before it comes to us," said Dale Miskell, an FBI agent who spoke at the meeting. Cyberfraud is one of the agency's top priorities, he said, noting that the agency's Internet Crime

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Voicing Approval

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and what to pick. The workers respond to confirm that the task has been completed as required.

Voice systems have been around since 1988, but they are becoming more prominent in grocery logistics and other warehousing applications because of the accuracy and usability of the software have increased, especially in noisy environments like warehouses and freezers. In addition, the cost of the systems and the weight of the mobile computers have come down, observers noted. "As voice technology goes mainstream and the price point drops, then this technology will be a head-on competitor with RF handheld scanning," said Marc Wulfraat, managing partner with Kom International, Montreal.

Current voice users include Wal-Mart and its Sam's Club division, Kroger and its Ralphs division, Albertsons, Safeway, Publix, Supervalu, Winn-Dixie, Roundy's, Price Chopper, Wegmans, Stop & Shop, Fresh Brands, United Supermarkets, Loblaw's, Sobeys, Delhaize's Hanaford and Food Lion divisions, C & S Wholesale Grocers, Wild Oats, Weis Markets, Associated Wholesale Grocers, Associated Grocers of Baton Rouge, Hy-Vee and Giant Eagle.

"We're seeing a heavy up-

swing in usage," said Tim Eusterman, vice president of marketing and business development at Pittsburgh-based Vocollect. "We're adding between 4,500 and 5,000 [employee] users a month. Worldwide, we have north of 60,000 users, and grocery probably accounts for about 45,000 of those users. All but one of the SN top 10 supermarket chains are using Vocollect solutions."

"What's happened in the last several years," said Steve Gerrard, vice president of marketing for Lawrenceville, N.J.-based Voxware, another provider of voice-directed applications, "is that voice [recognition systems] of industrial strength have come on the market. That's made it possible for a company like ours to offer a complete solution designed to enable pickers, receivers, replenishers and short runners in warehouses to do their jobs."

The popularity of voice systems is testimony to their effectiveness. For example, a survey done in 2002 by Kom International, as well as data gathered empirically since then, shows the majority of voice technology users are reporting an average 85% reduction in picking errors.

Users also reported that short shipments decline, on average, by 70% to 90%,

while case-picking productivity goes up between 5% and 20%. "A 5 to 20% savings in case picking is huge for most of these companies," said Wulfraat of Kom International.

Of course, cost remains a major consideration. Late last year, according to Ackerman, voice hardware averaged \$4,500 per selector, while the software ran about \$30,000; training and implementation can cost be-

ter, he said, when pick slots are divided into several sections with multiple items, requiring product descriptions to be transmitted to help pickers distinguish between items.

No Regrets

Users contacted by SN confirmed that voice has been paying off. For example, Rich Vastine, director of industrial engineering for Kansas City, Kan.-based As-

er. AG started in what was thought to be the most challenging environment for voice: the cold environment of catch-weight meats.

"We felt if voice could handle the cold environment and the catch-weight issue, then putting it in other parts of the warehouse would be relatively easy," he rationalized.

The result has been that voice has allowed AG to grow its volume substantially without having to increase its workforce to any great degree, said Fletcher. "Our ability to train people is much quicker. Our productivity has increased substantially. Our error rate has been substantially diminished, which means our retailers have the product on their shelves when they need it. And our employees working with voice really seem to view it as an enhancement over paper."

Fletcher reported a significant reduction in mis-pulls. Prior to voice, AG averaged four mis-pulls per every 1,000 cases shipped; after, mis-pulls dropped to about one per every 1,000 — AG's target. "We were looking for about a 65 to 70% reduction on mis-pulls, and we actually surpassed that in a number of departments," he said. This reduction in mis-pulls on \$1 million in sales means an incremental \$30,000 to topline sales, he noted.

Fletcher said that while AG Baton Rouge initially estimated it would reach payback in about 18 months, "we got it in less than a year."

Bristol, U.K.-based Somerfield, which operates more than 1,300 grocery stores in the United Kingdom, first installed a voice-directed system in late 2002, using Voxware's VoiceLogistics.

Roger Hughes, logistics IT executive for Somerfield, said its business case for installing the system was based on a 6% improvement in picking productivity, adding that so far, productivity gains have ranged from 3% to 10% depending on location.

"Our business case looked for an accuracy rate of 99.8%," Hughes said. "We



Voice-based picking at a Somerfield facility in the United Kingdom.

tween \$30,000 and \$100,000, assuming an RF network is in place.

With a 802.11 RF wireless communication network within a warehouse, no major infrastructure changes need to be made to introduce computerized voice picking, according to users. Implementation is especially easy if a company is using a warehouse management system that is integrated with computerized voice.

However, adopters should be prepared to invest in sufficient training and supervision in advance of implementation so workers can have a full understanding of how the system works, stated Randy Fletcher, vice president of logistics and supply chain management, Associated Grocers of Baton Rouge.

While picking errors are substantially reduced through voice technology, they don't disappear, noted Bill Kimler, director of systems and inventory control, Maines Paper & Food Service, Conklin, N.Y., at last year's Food Industry Productivity Convention & Exposition. Even voice will fal-

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Can Voice Partner With RFID?

While voice-based systems have helped improve accuracy in warehouse operations, RFID (radio frequency identification) technology, working with voice, may improve it still further.

In the foreseeable future, some sources said, computerized voice-directed systems will probably work in sync with RFID technology, helping to ensure that once a selector or a receiver gets to the right product and selects it in the right quantities, it gets taken to the right area for replenishment or placed on the right truck for delivery to the right store.

"As RFID/EPC evolves, companies are coming to us and asking if RFID is compatible with voice," said Larry Sweeney, vice president, product management Vocollect, Pittsburgh.

Vocollect thinks it is, said Sweeney. Like voice, "RFID itself is hands-free/eyes-free technology," he observed. "So if you can envision a talking tag on a pallet, wouldn't it be interesting to have a worker walk up to that tag and, using voice, have that tag identify that pallet and tell the worker what to do with it?"

Or perhaps, he said, a location could be tagged and, through voice, a worker could get instructions on what to do at that location. "We see voice as a key enabler of RFID/EPC technology in the distribution world," said Sweeney.

JDA Moves Into Data Sync With QRS Deal

By MICHAEL GARRY

SCOTTSDALE, Ariz. — JDA Software Group's agreement last month to acquire QRS creates a company that adds QRS' capabilities as a data pool and data synchronization provider to JDA's wide-ranging retail applications.

QRS' data pool (product catalogue), one of the world's largest, consists of 100 million items, and is used by 4,500 companies, mostly in the general merchandise and apparel industries, said Liz Fetter, president and chief executive officer, QRS. Fetter said as part of JDA, the data pool is aiming to expand into the food retail and CPG industries.

QRS is also known as a provider of EDI (electronic data interchange) services, which Fetter said would also attempt to expand into food retail and CPG. QRS is already focused on the grocery sector with its Retail Intelligence Services, which collects in-store competitive pricing information.

Under JDA's all-stock acquisition of QRS, valued at about \$100 million, QRS shareholders receive half a share of JDA common stock for each share of QRS com-

mon stock. The deal is expected to close in the third or fourth quarter of 2004. Projected annual revenue of the combined companies would exceed \$340 million.

JDA is known in food retailing for a number of applications, including Intactix space management; E3 inventory management; VistaRetail electronic commerce; CPFR; advertising, marketing and promotion; trade fund and deal management; and fresh-item management.

The QRS name will be absorbed into JDA as one of its brands, said Peter Charness, senior vice president of marketing, JDA.

"The acquisition smartly expands JDA's internally focused demand chain optimization applications to now include supplier-centric collaborative planning," said AMR Alert, an online newsletter from AMR Research, Boston, written by research analysts Robert Garf and Scott Langdoc.

Fetter said QRS plans to certify its data pool with the emerging Global Data Synchronization Network, being organized by the Uniform Code Council and EAN International. "Last year we did

a lot of work on the catalog to handle GTINs and language capabilities," she said. "All companies are struggling with global data syn-

chronization except the top 100 suppliers and the top five retailers," said Charness. "QRS will be helpful to the food industry" in this area.

had been at around 99.2%. We are seeing this happen."

Probably the biggest user of voice is the biggest retailer, Wal-Mart, the first U.S. company to pilot a computerized voice-directed system back in the mid-1990s. Voice is now in all 120 of Wal-Mart's distribution centers, and the technology is being installed whenever Wal-Mart opens a new DC, said Christi Gallagher, a spokeswoman for the Bentonville, Ark.-based giant. Declining to provide information on applications or results, Gallagher did say voice "has enabled us to improve overall performance."

Closing the Loop

With product selection established as a voice-based application, the technology is expanding into many other areas, including receiving, replenishment, put-away, cycle counting, automated sortation, loading, line loading, cross docking, and even inventory management.

This process is being called "closing the loop," or closing the cycle within a warehouse

At AG Baton Rouge, voice is being used for pick-slot counting, noted Fletcher. AWG is also discussing how to roll out additional voice-verification applications, probably starting with loading.

Wal-Mart has been "extremely innovative" with voice, using it for flow-through applications, said Wulfraat. In particular, he said, Wal-Mart uses it in cross-docking applications, guiding operators to put cases into store-specific staging locations prior to shipping.

"They have voice right there on the receiving dock to help the operators differentiate between what is going straight to the stores and what is going to storage," said Wulfraat.

AWG's Vastine forecasted using voice with auditing and verification on the inventory control side. "Voice is natural, not a learned process like reading. And we find we can use this process almost anywhere," he said.

Letter To The Editor



Concerns About Price Optimization

There's growing interest in price optimization, as was highlighted in SN's "A Break for Price Op?" June 21, 2004, Page 49. That brings with it a question: Will price optimization produce short-term revenue gains, but also unintentionally contribute to loss of sales over time?

We've seen that happen in other businesses, and it could happen in the supermarket business as well. The reason is that unrelenting margin pressure may cause some retailers to ask too much from price optimization.

There is already a concern, voiced mainly by manufacturers, that price increases are slowing sales. As margin pressures push retailers to raise prices and more companies use price optimization, it will be critical that operators not simply maintain, but actually strengthen, their price image. This can be done, but it isn't automatic.

Bill Bishop
president
Willard Bishop Consulting
Barrington, Ill.

OUR CUSTOMERS SPEAK

ABOUT VOICE DISTRIBUTION
BY VOCOLLECT



"Previously, we went from paper to bar code scanners to increase accuracy, but we lost productivity. Now, with voice, we get both."

Rich Vastine, Director of Industrial Engineering
Associated Wholesale Grocers

It's no wonder, when people see results like near-perfect accuracy and productivity increases up to 35%.

Our voice-directed systems are the most efficient, most cost-effective way to perform:

- ORDER SELECTION
- CYCLE COUNTING
- REPLENISHMENT
- RECEIVING
- FLOW-THROUGH
- PUT-AWAY
- TRANSFERS
- LOADING

Visit www.vocollect.com/snm to request our free Voice vs. Scanning White Paper.

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