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RFID

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What a difference a year makes. Twelve months ago, suppliers to retail giants such as Wal-Mart and Target were in a sweat, scrambling to comply with daunting radio-frequency identification (RFID) mandates and deadlines. Then, the January 2005 Wal-Mart deadlines passed, with the top 100 suppliers successfully incorporating pallet- or case-level tag and reader implementations.

The entire industry breathed a deep sigh of relief.

"There was tremendous skepticism about RFID in the past," recalls Stav Prodromou, CEO of Alien Technology Corp., a supplier of RFID products based in Morgan Hill, Calif. "That's all behind us now."

Although the Wal-Mart mandate affected only top suppliers, the initiative raised awareness about RFID, launching conversations about its benefits and applications in companies around the world. "These high-profile projects helped drive interest in the technology," says Dan Mullen, president of AIM Global, the trade association for the automatic identification and data capture industry, based in Warrendale, Pa. "Setting a deadline for implementation, even for a small number of vendors, also helped the industry and the vendor community mature."

Today, many companies have embraced RFID and are beginning to generate real business benefits from the technology. Enhanced efficiency in warehouse operations, improved inventory visibility, and increased transactional accuracy (with a related decrease in product loss due to theft or poor logistics) are commonly cited RFID benefits.

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RFID

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– Stav Prodromou, CEO,
Alien Technology

Yet early adopters found that RFID technologies must be shaped to individual business needs. “RFID certainly is not a one-size-fits-all technology,” says Mike Wills, vice president of RFID technology provider Intermec Technologies Corp., in Everett, Wash. “Virtually every participant found that there are many variables associated with successful implementation of RFID systems. Environmental, regulatory, and product-quality considerations – as well as the demands of various applications – affect the type of systems needed for optimal performance.”

WITH KNOWLEDGE COMES UNDERSTANDING

One Wal-Mart supplier, VF Corp., in Greensboro, N.C., began investigating the use of RFID technology at the item level in 1993. “Although the chip and tag costs were too expensive then, we saw value in using the tags throughout the supply chain,” says Jim Jackson, director of vendor relationship management for VF Services. Instead, the company adopted lower-cost automatic identification technologies, including bar coding.

When the Wal-Mart mandate was issued, VF Corp. – which supplies branded apparel to the retail giant – didn’t have to think twice. However, the company has yet to see any bottom-line benefits of the implementation, other than maintaining Wal-Mart as its customer. “Because we send mixed-SKU (stock-keeping unit) cases to Wal-Mart, our cases don’t actually exist until about two hours before shipment,” says Jackson. “So the

value for VF to use RFID at the ‘case level’ is limited.”

Even so, the experience has caused VF to reconsider tagging goods at the item level. A new RFID pilot will launch this year, with tags likely affixed to the garment’s removable paper tags rather than in the item itself. “Tagging at the item level raises many privacy issues,” says Jackson. “This is a way to alleviate those customer concerns.”

RFID IN THE REAL WORLD

Although most companies facing the mandates responded with a compliance approach, many are now investigating how they can integrate RFID deeper within business processes, both for external supply chains and for closed-loop applications. For example, Dusseldorf (Germany)-based Metro Group, the world’s third largest retailer, is extending the use of RFID ever further into its worldwide supply chain.

Helped by the performance of RFID readers from Intermec, Metro Group is reaping the time savings, labor reductions, and inventory benefits it hoped for when it began testing RFID. The company, which operates department stores, hypermarkets, and grocery stores in 30 countries throughout Europe and in Asia, announced its “Future Store” initiative in 2002, which was designed to implement RFID throughout the supply chain. In the course of the pilot, Metro Group achieved a 14% reduction in warehouse labor, an 11% improvement in stock availability, and an 18% reduction in lost goods.

RFID

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— Mike Wills, vice president,
Intermec Technologies

Encouraged by its pilot-system performance and real-world benefits, the retailer went live in November with RFID in its own daily supply-chain operations. “We have already achieved substantial improvements in our daily routines thanks to the use of RFID,” says Metro Group CIO Zygmunt Mierdorf. “As anticipated, the goods receipt process in our warehouses and stores has accelerated markedly. Less time is lost at delivery. RFID helped us identify and eliminate weak spots in the handling process.”

TAG, YOU'RE IT

The experience of Wal-Mart's top 100 suppliers is proving tremendously valuable for the next tier of suppliers, who face a January 2006 implementation deadline. “Compared with the activity last year, the next 200 suppliers are using RFID much earlier relative to their impending deadline,” says Prodomou.

Maturing technology is also helping the next generation of suppliers adopt RFID. The first deadline drove down tag costs. One year ago, the lowest-priced tags sold for 25 cents each; today's prices are headed for 15 cents. Manufacturers such as Alien Technology have developed high-volume, low-cost manufacturing processes that may push tag prices even lower — Alien Technology predicts five cents by 2007.

New software packages are helping companies do more than track cases through the supply chain; some use the data collected to perform demand forecasting, provide analytics, and

suggest efficiency-enhancing process changes. “It's not just about collecting the most data any more,” says Mullen. “Companies can collect actionable data.”

Decision makers should keep in mind that advancing chip and tag technology will also affect the development of RFID implementations. “Generation Two products and services, offering true vendor interoperability and global capabilities not found in Generation One technology, will become increasingly available throughout the rest of 2005 from well-established technology providers,” says Intermec's Wills. “Look for consumer products companies to implement broader-scale RFID systems that support ongoing initiatives, as well as the next generation of global implementations.”

In the end, though, companies can only achieve the full benefits of RFID by getting started with a well-defined pilot implementation. “Experiment to see how the technology can help your business; see where tags and readers should be located and where it makes sense to use them,” says Jackson. “Research is valuable, but the only way to know what RFID can do is to try it out.”

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