

## RFID: Thinking Outside the Closed Loop

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# Thinking Outside the Closed Loop

Despite excitement over RFID technology and its future promise, most companies currently lack a business case to adopt it anytime soon.

by Stefan Stroh and Jürgen Ringbeck

It's hard to deny that radio frequency identification (RFID) technology is hot. Major retailers, such as Wal-Mart, Target, and Best Buy in the United States and Metro Group in Germany, have established full-fledged programs in which some or all of their suppliers will be required to put chip-driven tags on product pallets or cases, so shipments can be better tracked from warehouse to store shelf. These tracking applications, and similar ones developed by the U.S. Department of Defense, the U.S. Food and Drug Administration, Boeing, and Airbus, to name a few of the organizations using this technology, hint at the beginnings of a critical mass for RFID. Falling chip prices — from 40 cents a few years ago to as little as 20 cents per chip today — are also spurring such high-tech firms as Intel and SAP to announce significant investments to further develop the technology.

But reality often belies excitement. We wondered about the conditions under which it makes sense for companies to adopt RFID technology, and the opportunities it offers for the reengineering of business processes. So together with the M-Lab at Switzerland's St. Gallen University, we surveyed more than 30 leading European industrial and

logistics companies to find out how they view RFID and its promise.

Our survey suggests that there is significant ambivalence among companies about RFID technology. They are excited about its future possibilities, but disappointed in the lack of a business case to adopt it anytime soon: Sixty-seven percent of the companies we surveyed said that RFID technology is strategically important for the development of their business, but fewer than 20 percent said they were earmarking more than 500,000 euros (\$617,000) for RFID initiatives.

motive industry has been using for several years, both the product being manufactured and the component materials are tagged with chips so computerized readers can automatically identify the item being built, which options the customer ordered, and which parts should be installed.

One automotive manufacturer we interviewed said that before the company deployed RFID, the error rate in assembly (e.g., the number of missing parts or wrong parts) was around 50 percent. Now, with RFID, plant process efficiency has

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The problem is that RFID currently produces an obvious return on investment only in so-called closed-loop applications, such as asset management, or in an assembly line that operates solely within a single plant and doesn't require open transmission of data or supplies among internal or external business partners. In closed-loop RFID applications, which the auto-

improved significantly. Further, ongoing system costs after the initial investment are relatively low because RFID chips can be reused.

Contrast this with an open-loop application being used in the supply chain initiatives led by Wal-Mart and Metro, which involve the stores *and* their suppliers. In those instances, the high initial investment in chips placed on pallets and

crates, RFID readers, and software to integrate the data with corporate networks has discouraged suppliers from doing much more than slapping RFID tags on shipments. So has the lack of easy-to-develop procurement and factory applications to make use of this information.

The retailers (which don't shoulder the cost of purchasing tags) can make immediate use of the RFID data of course, using it to ensure that store shelves and warehouses are constantly stocked and to make more accurate forecasts based on real-time

multiple organizations would be compatible. According to our survey, only 8 percent of companies have begun centrally coordinated efforts to embed RFID into overall strategic planning within the firm and with supply chain partners; 48 percent of the companies to which we spoke said they're still doing individual closed-loop projects. Moreover, because barcoding has helped warehousing and transportation companies continuously improve shipment tracking, 99 percent of shipments are already delivered problem free, limit-

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sales data. Because retailers, not suppliers, stand to reap instant benefits from the new systems, they are dictating the rollout of RFID.

RFID represents a supply chain infrastructure investment with a benefit that increases exponentially as the reach of the system broadens. If RFID allowed suppliers to “eavesdrop” on the sales and movements of their products minute by minute or to learn the exact location of raw materials in transit from Asia, the technology could, in many cases, pay for itself. But this would also require applications capable of handling a remarkable amount of network and data interaction between partner companies around the world.

Currently, there are many competing standards for RFID hardware, software, and data management. This makes it difficult to set up a network in which the systems of

ing RFID's added value.

Despite the small number of successful RFID applications today, we believe that adoption of the technology will increase dramatically over the next four years. Some companies' resistance will be weakened as chip prices continue to fall and as standards inevitably take hold.

But there's also a tactical reason to be optimistic about RFID's prospects: As companies pursue more sophisticated mass customization, they need to track and analyze supply chain data at an increasingly granular level. To give customers what they want when they want it — customized, quickly, inexpensively, and efficiently — companies must know the status of supplies, inventory, manufacturing, and shipments almost to the moment. RFID could become the spy on the supply chain that every company wishes it had. +

### Resources

“Capturing the Value of Supply Chain Management,” by Peter Heckmann, Dermot Shorten, and Harriet Engel, *s+b enews*, 06/26/03. [www.strategy-business.com/enewsarticle/22165](http://www.strategy-business.com/enewsarticle/22165)

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