

Boeing and Airbus have embraced RFID, signaling that the technology offers substantial benefits for manufacturers.

By Mark Roberti

May 7, 2004—I received a call the other day from a journalist who was working on a story and wanted to know whether RFID was "the savior of manufacturing or an immense boondoggle." My response: "Neither." I'm sure that wasn't a very satisfying answer. Subtlety and complexity don't make for good headlines. But there are no simple answers when it comes to RFID. Many "experts" have been saying there are few benefits for manufacturers, but the big news last week was that two of the world's largest manufacturers are moving toward adopting RFID.

On May 5, *RFID Journal* broke the news that Boeing and Airbus are teaming up to promote one RFID standard for tagging major airplane parts. They will soon move toward requiring RFID tags on major parts for particular jets and eventually all jets. Boeing and Airbus are among the top 100 largest manufacturers in the world.

Different manufacturers have different needs. RFID might not hold huge advantages for the Wal-Mart top 100 suppliers that make low-margin, slow-moving goods that are rarely stolen. But let's not oversimplify things. There are many manufacturers of highly engineered products, such as Boeing and Airbus, that could well achieve enormous benefits from using RFID technologies.

Boeing and Airbus are looking to tag large parts initially. This will provide better visibility, enable greater control over inventory and improve the management of work in process. But there are other benefits to the airplane makers and their suppliers. Some estimates say as much as 10 percent of parts are "unapproved," meaning the part is counterfeit or someone took an old part, reconditioned it and sold it as new. Ten percent seems high, but even if it's only 3 percent, unapproved parts have a big impact on the airplane makers, their suppliers and the safety of the industry.

Another issue has to do with repairs. Former General Electric Chairman Jack Welch used to talk about "digitizing" GE's operations. One area that GE executives pointed to was the repair and maintenance of aircraft engines. As parts are removed and refurbished, their maintenance histories must be carefully tracked, which involves a great deal of paperwork. Using RFID to identify the parts will make it easier to link electronic data to a part and share it within GE Aircraft Engines and with airline customers over a secure Web site.

RFID is not just for tracking boxes in the supply chain. It could improve internal manufacturing efficiencies and eventually lead to mass customization of products, where customers choose the options they want on a computer at home or in a store and each item is made to order. Duncan



McFarlane, director of the Auto-ID Lab at Cambridge in the United Kingdom, talks about how RFID could enable the dynamic use of resources within a manufacturing facility in the future to make this possible in an efficient, cost-effective way. To use a simple example, I order a blue car and when it's about to be painted, the machine is out of blue paint. Software makes a decision on what other color to use and reassigns that body to another person's car. Then, a new body headed down the line is assigned to me. It is painted blue without ever slowing down the manufacturing line.

There are, of course, huge challenges with implementing this kind of system. For one thing, metal objects remain a challenge to read. Tag designs have improved to the point where reading one tag on one item is a piece of cake. But reading a bin full of metal parts is not possible today and may never be possible. So there will need to be changes to the way items are handled, to software systems and to business processes. It will be a long, slow evolution.

RFID is not the savior of manufacturing. Nor is it a huge additional expense that will drag down profitability. It's an enabling platform that can make all manufacturers more efficient. To what degree depends on the type of manufacturing operation and how effectively the technology is used.

Mark Roberti is the founder and editor of RFID Journal. If you would like to comment on this article, click on the link below.

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