

**The airline carrier will spend up to \$25 million during the next two years to roll out an RFID baggage-handling system at every U.S. airport it serves.**

By Jonathan Collins

July 2, 2004—Building on two RFID trials it carried out within in the past nine months, Delta Air Lines has committed to spending up to \$25 million during the next two years to roll out an RFID system to track all the luggage it handles at U.S. airports.

Delta plans to use disposable RFID baggage tags that will be attached to passenger luggage at check-in at every U.S. airport it serves. Those labels will enable Delta to track each item throughout the carrier's baggage-sorting operation and onto the plane, then through any transfer airports for connecting flights and finally onto the baggage carousel at the passenger destination.

“With RFID we can know exactly where a bag is, and that's very powerful information. We obviously track our aircraft, and we know where our passengers are, but the missing link has been with baggage. Adding RFID to baggage means we will have full visibility into all our operations,” said Jim Logue, systems manager for ramp and baggage strategy development at Delta Air Lines, to attendees at the [Global Aviation RFID Forum](#) in June. Logue was speaking at a presentation that detailed the company's two RFID pilots.



The key motivation behind deploying RFID across its baggage operations is financial, although the company believes it will also improve customer service. Delta estimates that only 0.7 percent of the bags it handles every year gets lost, but finding those 800,000 or so misplaced bags and returning them to their owners cost the company close to \$100 million a year. Given that the RFID baggage-tracking system is expected to cost between \$15 million and \$25 million to deploy, the company expects to quickly recoup its investment.

Delta says that it has yet to determine which vendors and RFID equipment it will use for its planned RFID system, but that it will issue its technical requirements in a request for proposal (RFP) for interested RFID hardware and services vendors later this year. In the two RFID pilots carried out by Delta at Florida's Jacksonville Airport in October 2003 and May 2004, the company says it used a variety of hardware vendors' equipment.

Although Delta is committed to supporting EPCglobal standards, last month Delta and United Airlines made a joint proposal to the International Air Transport Association (ITAT) regarding RFID data specifications for baggage. Delta says it needs to ensure that its system does not also read EPC tags placed on items for use in, for example, the Wal-Mart supply chain.

The joint proposal from the two air carriers allows for either writing flight information to the tag attached to an item of luggage or associating a tag's unique serial number with the flight and passenger information for that item to which it is attached. Delta expects to associate information with a tag's serial number rather than write to the tag. "We learned from the Jacksonville pilot that we don't need to write to each tag. Association works just as well," says Logue.

Despite years of trying improving the quality of its baggage-handling systems, Logue maintains that the performance of its current system, which uses bar code labels, has "flat-lined" out, with bar-coded labels being successfully read by scanners only 85 percent of the time. Logue expects RFID to deliver read rates very close to 100 percent.

In addition, because RFID is a hands-free technology, the company believes that its new system will not only be able to track baggage automatically as it passes RFID readers but it will also free baggage handlers from having to take the time to use handheld bar code readers.

In Delta's two RFID trials, UHF RFID inlays were added to the company's existing baggage labels. Those labels were fixed to checked-in luggage on the airline's Jacksonville-to-Atlanta route. RFID antennas were placed throughout baggage conveyor system, with RFID readers also reading tags as bags were loaded and unloaded from the unit load devices (ULD)—large containers that are loaded onto the plane.

According to Logue, the trials were essential to finding out if RFID tags would be robust enough to survive the baggage-sorting process. During the trials, Delta saw tag antennas destroyed by static electricity on its conveyor systems. "We learned a lot, and we learned it's not simple," says Logue.

Airline companies are not alone in looking to RFID to improve the ability to track baggage. Both McCarran Airport in Las Vegas and the Hong Kong International Airport have announced plans to use Matrics RFID tags and readers for their planned baggage-handling systems.

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