

# On the case: reclaiming luggage

*RFID-based baggage tracking solutions have received a mixed reception*

**M**isdirected or lost luggage is a serious and worsening problem for the aviation industry. Airlines handled 2.25 billion bags in 2007 – a number that is likely to rise in 2008 as security restrictions force more luggage into the hold.

Using data from its WorldTracer tracking system, SITA's fourth annual baggage report, released in April 2008, concluded that 2 per cent of the overall total (42.4 million items) was mishandled or delayed in 2007 – 18.86 bags per thousand passengers.

The scale of the issue is reflected by the fact that losses from misdirected or lost luggage items totalled USD3.8 billion in 2007. "The annual costs for airlines and airports of missed bags are phenomenal," Rob Houben, vice-president for baggage handling at Vander-

lande Industries, tells *Jane's*. "These parties realise that something has to happen."

What, though, can be done to reverse this trend, or at the very least alleviate it? "Airports and airlines pay a lot of attention to lower the mishandled bag rate of their baggage process," remarks Houben. "Mostly, bags become lost or mishandled not because of the baggage-handling system but due to a flaw in the total process where human influence and operational planning plays a vital role."

Houben thinks that baggage-handling systems can help to bring down the mishandled rate if they are configured flexibly to deal with bags according to time priority, for instance. "Time-critical bags could follow in that case another route to the gate than 'normal' bags," he comments. "The introduction of high-quality tracking and tracing



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RFID tags for baggage have the potential to save billions for the airlines if they are widely adopted, says Catherine Mayer, vice-president of airport services at SITA and chair of ACI's World Business Partner Board.

using technology such as RFID [radio frequency identification] and the addition of automation at the front and back end can also contribute to a better performance of the whole baggage-handling process."

Adding RFID tags to baggage has been advocated for some time as a way of improving the overall process but the concept has encountered scepticism from influential figures such as International Air Transport Association (IATA) director general and chief executive officer, Giovanni Bisignani. "RFID was part of the [IATA] Simplifying the Business programme," he told the SITA Airline IT Summit in Brussels in June 2008. "We thought RFID was the solution but research showed it would only solve 20 per cent of the problem. The potential savings did not justify an industry mandate."

## RFID advantages

IATA has published a global RFID standard and members are invited to participate in twice-yearly RFID oversight meetings and the Baggage Working Group. The organisation favours using RFID in baggage handling to reduce no-read rates and to monitor transfer of responsibility at originating and departing airports, but concludes that airports with low mishandling rates, and those with a highly developed baggage handling infrastructure, would not benefit from an RFID mandate.

A focused introduction of RFID could provide greater benefits. "The use of RFID in transfer processes was carefully analysed by IATA as part of the RFID transition plan," IATA states. "This analysis showed that only 80 airports needed to adopt RFID to deliver an annual benefit of over USD200 million to the industry."

Houben is more optimistic than Bisignani about the potential of RFID in baggage handling. "The introduction of RFID will surely add more value to the baggage process by means of easier tracking and information supply," he asserts. "The RFID tag can also encompass data, which can improve the service level at check-in for the passenger."

RFID has been successfully introduced for KLM/Air France passengers and is running in a fully operational environment at four check-in points at Amsterdam Schiphol. "A read rate close to 99.5 per cent has been achieved with live baggage," says Houben.

He adds that operational use at Moscow Sheremetyevo will follow "very soon".

While IATA sees RFID technology playing a role in aircraft maintenance, catering equipment and air cargo, it is taking a broader approach to the baggage problem. "IATA is developing a toolkit of solutions including passenger education on packing and labelling, more effective hub management and stronger labels that survive humid conditions," said Bisignani. To that end Delta Air Lines, Emirates, LAN and Lufthansa are helping IATA launch a pilot programme by the end of the year.

IATA established a global standard for RFID baggage tags in late 2005. Suppliers, airlines and airports have since conducted trials but Houben is dissatisfied with the pace of change: "RFID will contribute to overall process transparency and therefore performance improvement, but the acceptance of this new technology by airlines and airports is too slow. RFID is entering maturity but the technology still requires refinement."

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Economic factors and technological refinements could drive the adoption of RFID tags. Prices have fallen to a level where disposable RFID labels can be used. "We are even seeing suitcase manufacturers investigate integrating embedded read/write tags in the bag itself," says Houben.

Although the price of the tag has fallen, Catherine Mayer, vice-president of airport services at SITA and chair of ACI's World Business Partner Board, points out that this remains an issue. "The hesitancy from the airlines is not about the RFID infrastructure but the cost of the tag itself – that is still substantially higher than the traditional paper-based method," she remarks.

## Necessary steps

Vanderlande introduced RFID on a trial basis at selected airports including Amsterdam Schiphol and Moscow Sheremetyevo. The results were positive, Houben says, but the trial was confined to outbound passengers. "Airports and airlines will not experience the full benefits as long as the transfer process, which commonly records read rates of around 80 per cent, is not included," he predicts.

"RFID will significantly improve the read rates in this transfer process, thus lowering costs due to misdirected baggage. Therefore only large-scale implementation by individual carriers or airline alli-



■ Emirates and BAA have recently completed a six-month trial of radio-frequency identification (RFID) baggage labels at London Heathrow Terminal 3.

ances shall deliver the benefits. The question is which airlines will have the guts to introduce RFID on a larger scale."

Mayer likewise believes that RFID for baggage handling will only prove its worth if it is widely adopted – she believes this tipping point is two or three years away.

"RFID has its place in our future and its adoption rate will really come once we have a better return on investment," she tells *Jane's*.

"The key criteria from my point of view is getting a global process in place so that we can derive real benefits for the airlines. The airports see the benefits of local handling, there's no doubt about it, because you have a reduced error in the read rate. However, for RFID to have a real impact on this industry we have to see a return on that investment with real savings for the airlines from a reduction in mishandled bags. That will come when enough RFID is implemented to make a difference to an airline's network," Mayer says.

"We'll get there. The main limitation is that there is just a limited number of implementations around the world and a lot of pilot schemes," she concludes. *Ben Vogel* ■

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