

Thai Airport Tests RFID to Track Cargo, Streamline Customs

The international airport in Bangkok is employing thousands of reusable passive UHF RFID tags to track all airfreight passing through its cargo terminal.

By Beth Bacheldor

July 6, 2007—Thailand's [Suvarnabhumi Airport](#), also known as the New Bangkok International Airport (NBIA), is testing passive, ultra-high frequency (UHF) RFID and other auto-identification technologies in its cargo, customs and warehouse facilities.

[Airports of Thailand Public Company Ltd.](#) (AOT), which manages and operates the nation's airports, is implementing RFID and bar-code technology to improve operations in the government-established Cargo Free Zone (CFZ). The government's mission is to develop a national logistics system designed to improve cargo management, freight transportation and customs, enabling Thailand to grow as a logistics airfreight hub to the Greater Mekong Subregion (GMS)—Cambodia, the Lao People's Democratic Republic, Myanmar, Thailand, Viet Nam and Yunnan Province in the People's Republic of China—as well as other countries in South Asia.

AOT is working with [Intermec](#), which is providing the RFID system. The system includes 150 Intermec IF5 fixed RFID readers; 100 Intermec mobile computers; 100 Intermec IP3 portable RFID readers; 600 interrogator antennas; 46,000 reusable plastic passive UHF RFID tags that operate at the 915 MHz frequency and comply with the ISO 18000-6B protocols (EPC Gen 2 is being considered for a second phase of the implementation); and 4,000 UHF (915 MHz) passive RFID windshield tags. The bar-code system combines 10 bar-code printers and 10 handheld bar-code scanners. [AMR Asia Company Ltd.](#) is serving as systems integrator for the project.

AOT decided to implement RFID in the CFZ "to make the flow of goods faster, more accurate and more efficient," says Piyarat Srivaranon, Intermec's country manager for Thailand, adding, "It will also streamline customs procedures and speed up transfer tax processes. AOT wanted to run the most up-to-date technology to promote [Suvarnabhumi Airport] as the airport hub of this region."

The Thai government has been using RFID technology to improve customs processes, while computer component manufacturer [Western Digital](#) and other companies say they are already benefiting from the technology (see [Western Digital Uses RFID Seals to Streamline Customs](#)).

The RFID system will track all goods coming into and going out of Thailand by airfreight, which must pass through the CFZ at Suvarnabhumi Airport. The CFZ includes a warehouse and terminal, a customs office and an X-ray facility, and comprises 549,416 square meters. It handles 3 million tons of cargo per year, says Srivaranon, coming from Thai Airways and Bangkok Airways.

Rigid reusable plastic RFID tags are manually affixed to shipment containers and pallets of goods that require storage in the cargo warehouse, such as those that must be inspected. Windshield tags are affixed to trucks so

they can be monitored as they enter and exit the terminal checking post.

RELATED_ARTICLES Fixed readers and antenna have been installed at the dock doors of the warehouse and terminal, while mobile computers with portable RFID readers are utilized to read and encode tags within warehouse. According to Srivaranon, bar codes and bar-code readers are employed in the warehouse to scan and document goods at the item level.

Testing of the RFID system will continue throughout the year, and is expected to transition into commercial implementation in 2008. AOT also plans to deploy RFID in the other airports it operates, Srivaranon says.

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