

# RFID-Enabled Phones Assign Work to Airport Crew

Ground personnel at Finland's Helsinki-Vantaa Airport are using RFID-enabled mobile phones to report their locations and receive job assignments.

By Jonathan Collins

June 14, 2006—At Helsinki-Vantaa Airport, a combination of mobile phone and RFID systems is helping improve airport operations.

For the past month, ground staff working for Northport, an airport services company that is part of the Finnair Group, have been using RFID-enabled mobile phones to update job scheduling systems regarding their location, and to receive details about new assignments.

Two years ago, Northport ground staff began using RFID-enabled staff identity cards to log in and out of shifts. Since then, employees have utilized mobile phones to call a service center for the location and other details of their next work assignment. The new system, tested in a trial held in January 2006, brings the two technologies together.

The new system was developed in cooperation with Nokia (which provided the mobile phones) and IBM (which served as systems integrator). According to Northport, the system streamlines the allocation, workflow and reporting of passenger-services, baggage-handling and check-in tasks by providing a way for the airport work-management system to use data on the exact location of ground staff after they complete each task. The system uses Nokia's Field Force Service Manager software, which connects the handsets to an IBM WebSphere-based server application that delivers the data to the existing airport work-management system in a usable format.

"We didn't used to know exactly where ground staff were when it came to assigning new tasks," says Jari Viitanen, VP of business development at Northport. "They could be calling from anywhere, so assigning tasks was not based on their location."

The new system uses RFID tags with the same Philips Semiconductors' Mifare 13.56 MHz RFID chips that are embedded in the existing ID cards system. Once ground staff complete set tasks and are ready for new ones, they use RFID readers integrated into their new Nokia 5140i handsets to read tags installed at locations around the airport. The 3-centimeter-wide circular tags from UPM Raflatac are each embedded in a plastic housing and mounted at the same place at every check-in desk and boarding gateso employees know exactly where to find them when needed.

Holding the telephone's RFID reader within 10 centimeters of a location tag triggers the phone to transmit the ID numbers of the phone and tag automatically. This informs the airport work-management system of that person's location and availability for another task. This real-time data enables the Northport work-management system to determine which staff members are closest to the sites of remaining tasks,

thereby saving time and creating efficiency in the work scheduling.

Work assignments are then transmitted automatically to the phone and appear on its screen. With the previous system, personnel would have to call in and wait, or browse multiple voice menus to learn their next task. Now, a worker presents an existing RFID-enabled identity card into the handset used for that shift, and the phone's RFID interrogator reads the tag on the card and logs the employee in.

"Workers just grab a phone from a pool of phones, work with it and then return it," says Kimmo Kaskikallio, IT architect at IBM Finland. "Their ID checks them into the phone, and the task-scheduling system can see which staff member has which phone."

So far, tags have been deployed at 40 check-in desks and 35 departure gates at the airport. Northport eventually plans to attach tags to the panels covering the plane power outlets embedded in the tarmac so ground staff on the airport's air side—the area where the planes are kept, boarded and maintained—can be tracked by location, as well.

Northport currently uses approximately 70 RFID-enabled handsets. Extending the system to air-side ground staff will reportedly require another 110 units.

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