

Using RFID to Manage Evacuations

Citing the increased threat of terrorist attacks on commercial buildings, Axxess promotes its system as a way to track employees during emergencies.

By Claire Swedberg

June 17, 2004—Axxess, a Dallas-area provider of RFID-enabled personnel access control, asset management and surveillance systems, recently marketing a new use for its RFID tag system, ActiveTag: emergency-evacuation management. The ActiveTag system, which is in use by the U.S. military to track vehicles, personnel and missiles, as well as being tested by businesses, was designed to help track movement of office personnel for security reasons. But the company maintains that its system can provide an effective way for businesses and organizations to track their employees' evacuation of a facility in the event of a fire or some other disaster.

The ActiveTag RFID tags, which are battery-powered and comply with the ISO 7810 ID-1 standard for access control cards, are more expensive than their passive counterparts, but the ActiveTag system enables reliable "hands-free" identification—the ability to identify personnel without the physical presentation of a credential, says Axxess CEO Allan Griebenow.

With ActiveTag RFID readers installed at building doorways, stairs or other exit points, the system would automatically identify personnel as they leave the building, and as they assemble at a disaster meeting or "mustering" point away from the facility, provided that they brought their tags with them. The identification system will allow them to have the credential tag (an ID-size card with a battery-powered RFID tag) in a pocket, on their clothing or in a purse or briefcase and still be identified as they exit the building. The size of a typical driver's license, the credential tag has a small, lightweight form factor compliant with the ISO 7810 ID-1 standard. Axxess also makes "docking" tags, which have the same components as credential tags and can be inserted into an existing access control card. Each tag transmits at a UHF band (either 315 MHz or 433 MHz) to palm-size network-based RFID readers 18 inches to 700 feet away, depending on the antenna used on the reader.

Axxess RFID tags can also be affixed to employee vehicles and office equipment, and read by readers at doorways, gates or even hallways and elevator entrances. Griebenow adds that the system can be used in conjunction with motion detectors to notify security about unauthorized movement in the building. Motion detectors, for example, can trace the presence of a person who is not carrying an RFID tag and alert security that an unauthorized person is in the office and where that person is.

The ActiveTag system, Griebenow says, has been tested for its mustering capabilities at a U.S. Department of Defense research facility. Although Axxess has been working with the technology for the past two years, use of the ActiveTag RFID system in offices has been limited.

"Security systems are driven by cost," Griebenow explains. While a passive RFID tag may cost 30 cents, the ActiveTag battery-powered tag averages \$20. On the other hand, ActiveTag RFID readers are considerably less expensive, averaging about \$1,000 each.

Griebenow adds, however, that the efficiency and accuracy of the ActiveTag makes it the reliable choice for emergency evacuation management and will increasingly become the more popular choice for large companies. To date, a company's decision to purchase and deploy an emergency evacuation management system, such as the ActiveTag's, is "usually driven by a problem or a foreseeable problem," Griebenow says. He argues that the notion of a potential disaster risk has been changed by the increased threat of terrorist attacks that target commercial sites.

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