

RFID Helps Mexican University Retain, Maintain Equipment

Regiomontana is using active tags to prevent the theft of laptops and projectors, and to help keep them properly maintained.

By Claire Swedberg

July 19, 2007—[Regiomontana University](#) (UR), located in Monterrey, Mexico, is employing an RFID system to track laptops and video projectors in its 115 classrooms, as well as monitor the maintenance of those projectors and reduce theft. In a typical year, the college had been suffering about \$15,000 in theft of its assets—primarily the projectors or laptops stationed in each classroom.

The college is growing quickly, says Roberto Ivon, UR's director of technology, and theft had become an increasing problem. "We wanted to stop theft, and we were having a tough time tracking the movement of our assets," he says, adding that thefts were occurring almost "in the blink of an eye, and we had to figure out how to secure the laptops and projectors."

In addition, the necessary maintenance of the projectors was sporadic and hard to predict. Projector lamps needed replacement at differing times, and old lamps often died just when a projector was needed during a class.

In 2006, Ivon began searching for an active RFID solution, and met with RFID systems integrator [IDZ](#), based in Monterrey, Mexico. The solution they developed required approximately eight months of testing and installation before full deployment for the fall 2006 semester. Designed and integrated by IDZ, the system uses IDZ enterprise software to interpret data from interrogators and send alerts in the event of an invalid asset movement. It also employs RFID tags, interrogators and middleware from [Acess](#), a Texas provider of RFID systems that use active (battery-powered) tags.

Each laptop and projector is tagged with a dual-frequency active RFID tag encoded with a unique ID number. That number is entered into the UR database, where it is linked to a description of the asset, the classroom in which it belongs, the building zones in which it is permitted to be and, in the case of projectors, the next scheduled maintenance date.

The 1-by-3-inch tag, which contains a removable battery, is affixed to the asset. In the school hallways and at exit points, IDZ installed more than 100 palm-sized Acess readers. If an item is removed from a classroom, says Ben Donohue, Acess' vice president of business development, the reusable RFID tag is awoken by an Acess activator that transmits a 125 kHz signal that includes its own ID number. The tag then transmits a 315 MHz signal containing its own ID number and that of the activator that awoke it. An interrogator picks up the signal from up to 100 feet away, and the data is sent to the university database via a TCP-IP connection.

IDZ enterprise system software accesses the database, monitoring the movement of assets and sending out an alert to security staff if any are carried beyond their permitted zones (determined by activator numbers) or

toward an exit. Security staff can be notified by a message or alert on a computer monitor, or by an e-mail or cell phone call, if an asset is being removed. Because interrogators are deployed all the way to an exit and outside the building, Ivon says, security personnel have time to track a thief's movements and retrieve a stolen asset before it's gone. The school has also installed security cameras that record movements in the hallways, and security staff can refer back to those video records if assets are moved in an unauthorized manner.

RELATED_ARTICLES In addition, the university utilizes the system to track the locations of assets whenever maintenance is required, and the software allows personnel to be alerted when a projector's lamp life has expired and maintenance is required. That data is linked to the projector's RFID number and classroom number, making it easier for personnel to locate and service the projector.

Since the system's installation a year ago, says Ivon, no laptops or projectors have been stolen. With visible antennas and cameras in the hallways, he adds, the increased security acts as a deterrent; that, in addition to the improved monitoring of projector maintenance, has provided UR with a return on its investment. However, Ivon declines to reveal the cost of the system, or how much the school is saving thanks to theft prevention and projector maintenance.

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