

HP Canada Partners With Universities to Create RFID Labs

The joint effort, participants say, helps all involved parties conduct RFID pilots, carry out research and better serve the needs of industrial companies and other end users.

By Claire Swedberg

Oct. 2, 2007—HP Canada's RFID Customer Experience Center, located at the company's headquarters in Mississauga, Ontario, attracts several hundred HP customers annually. These customers come to see RFID in action and get ideas for their own potential deployment. Built in 2004, the lab has been expanded twice—first in 2005, then in 2007. "Essentially," says the company's chief technology officer, Victor Garcia, "it's a place to test new applications, see how RFID performs with different products."

Last week, Southern Alberta Institute of Technology (SAIT) Polytechnic celebrated the opening of its own lab, based on HP Canada's RFID Customer Experience Center. SAIT Polytechnic says it intends to use the RFID Applications Development (RAD) Laboratory—under the umbrella of the school's Center for Innovative IT Solutions (CIITS)—to conduct pilots and applied research related to RFID use in the region's industries and nationwide. HP Canada plans to provide its own consultants to assist in that research. "We have been the first country within HP to establish a close relationship with academia," Garcia says, "and leverage their interest in the technology with our commercial experience."

The RAD Lab incorporates RFID interrogators and antennas from Motorola, Intermec, Intelleflex and Allflex; as well as low-frequency (LF), high-frequency (HF) and ultrahigh-frequency (UHF) RFID tags, including passive, battery-assisted passive and active. It also uses Microsoft BizTalk server 2006 R2, BEA's Edge Server, HP OpenView and other applications software to provide an interface between the MS SQL server and the RFID hardware.

"At our grand opening, BizTalk was used as an automated greeting as people walked past an antenna," says Alex Zahavich, director of applied research and innovation services at SAIT Polytechnic, who oversees the RAD Lab. "We imbedded RFID tags in the name tags for our guests." The readers captured the unique ID number on those name tags, after which BizTalk associated every number with a name and greeted each guest individually.

The RAD Lab's RFID equipment is portable and can be taken to SAIT's four education labs. That portability is essential to allowing researchers access to industry-specific devices, tools and equipment necessary to their study.

The Maintenance Lab is used to train millwrights and maintenance mechanics how to operate full-size industrial equipment, typically used in the oil and gas industry. The Human Simulation Lab employs robotic mannequins for training health-care students, while the Wellsite Lab is used to train oil and gas professionals at a full-scale well. And the Art Smith Aero Center is a training area designed for aerospace professionals in the areas of avionics and aircraft maintenance and repair.

All of the work done by the RAD Lab will be industry-driven, Zahavich says. Its projects will fall into four categories: agriculture, health-care, supply chain management for a variety of manufacturers and, finally, oil and gas.

Initially, the lab plans to work on an agriculture application with Olds College, located in Olds, Alberta, to test RFID tags for animal tracking. The university is conducting preliminary tag testing, Zahavich says, and SAIT Polytechnic is finalizing the collaboration agreement with Olds to develop hardware and software applications. HP Canada will provide consultants to assist with research and development.

In its study of RFID's use in the health-care sector, the RAD Lab will test the tracking of patient records at Calgary-area health-care facilities. The lab will also be utilized for inventory and asset management, Zahavich says, for as-yet-undetermined area manufacturers.

This week, the RAD Lab is sponsoring a seminar at SAIT Polytechnic for oil and gas companies, in cooperation with HP Canada, Cisco and Intermec. The seminar will explain how RFID tracking can be used in construction, maintenance and inventory tracking for such items as pumps and gears.

"Alberta is the hub of oil and gas," Garcia says, indicating that the university was a suitable location for a lab to serve that industry. HP Canada intends to assist the RAD Lab with its RFID research, drawing from HP's 75,000 researchers worldwide. In addition, the lab received \$300,000 funding from the Western Economic Diversification Canada, a federal funding agency supporting the commercialization and adoption of technology involving Western Canadian industry and academic institutions.

"I personally have believed in collaboration with academia," Garcia says. "Typically, universities do fundamental research and often come up with brilliant ideas but have no idea how to commercialize them." To that end, HP Canada helps university researchers determine how the system they conceptualize might enable a customer to make more money, cut costs or reduce risk, then assists in developing such a system.

"The business outcome is key," Garcia says. For HP Canada, he notes that "[colleges] often add a dimension we may not have—they help with perspective—and some of these people end up working for us, or taking us to customers we may not be exposed to." In some cases, he explains, customers come to the HP lab with specific business requirements that go beyond HP's products, services and solutions. "That is where a crucial link is established with HP's academic partners. We can help bridge emerging technologies through research, simulations, proof-of-concepts and education and training."

SAIT Polytechnic is not the first school to create an RFID lab modeled on HP's RFID Customer Experience Center. In June 2005, the École Polytechnique de Montréal built its own such facility. École Polytechnique's lab, Garcia recalls, had a particular interest in how RFID is deployed in the supply chain. Since then, the university's researchers have collaborated with HP Canada on several RFID projects, including one in which the school provided proof-of-concept.

RELATED_ARTICLES HP is also providing integration for an RFID system for Hydro-Québec, the hydroelectric power company for the Quebec area. The energy producer is seeking a system to help it track its transformers throughout the supply chain. Such a system, however, has not yet been deployed.

Currently, HP Canada is collaborating with a third Canadian academic institution, in Alberta, and is in the process of helping the school start its own RFID lab. Garcia says he hopes to see the lab completed by the end of 2007.