



THE WORLD'S RFID AUTHORITY

Italian RFID Lab Launches Warehouse Project

Headed by the University of Parma's RFID Lab, the project has the support of 20 major manufacturers and retailers of fast-moving consumer goods.

By Rhea Wessel

Nov. 27, 2006—The [RFID Lab at the University of Parma](#)

is developing a model of a full-scale warehouse to test radio frequency identification technology. The model includes receiving docks and storage racks. Based on input from 20 major Italian companies, the project will reproduce warehouse logistics processes typical to the food and fast-moving consumer goods (FMCG) sector.

Pilots running in the so-called "Warehouse Project" will examine how RFID can help automate data collection and data sharing at warehouses. In addition, these projects will test how companies can use RFID to automate and optimize storage, shipments and other internal processes.



Partners in the project include [Intermec](#), [SAP](#), [Sun Microsystems](#), [Procomac Packaging](#) and [Id-Solutions](#), a spin-off of the

Antonio Rizzi

university. Intermec is providing interrogators for portals and forklifts, and printers for encoding tags, while Sun is integrating its middleware into RFID hardware, managing the connection with the EPCglobal Network.

Meanwhile, SAP is integrating information collected with RFID into the SAP R3 ERP platform, and Procomac is providing the materials-handling equipment, such as conveying and depalletizing systems, being outfitted with RFID interrogators. Additionally, Id-Solutions is developing software able to utilize data collected via RFID to improve such processes as tracing food products, analyzing inventories and monitoring key performance indicators.

"Once the results from the Warehouse Project are available, we will develop the model to full scale," says Antonio Rizzi, a full professor of industrial logistics at the university's department of industrial engineering, which operates the lab. Rizzi expects to complete the model by the middle of 2007.

The launch of the Warehouse Project, slated for 2008 or 2009, is the first step in a roadmap that incorporates a logistics pilot and a supply-chain pilot. The logistics pilot will track products moving from a manufacturer's production line and to a retailer's distribution center, while the supply-chain pilot will add department-store logistics processes to the mix. The latter, Rizzi explains, will focus on receiving processes, shelf replenishment and shrinkage reduction.

Most likely, the pilots' participants will be drawn from the lab's board of advisors, which includes representatives from major Italian retailer [Coop Italia](#), international dairy-products manufacturer [Parmalat](#), drugmaker [Chiesi](#), pasta manufacturer [Barilla](#) and French retailer [Auchan](#). If all goes well, the RFID Lab hopes to pull together all the tests by 2008 or 2009, integrating the entire chain of processes and operating a full RFID-outfitted supply chain.

The idea for the Warehouse Project emerged from research the University of Parma performed for [GS1 Italy](#), an organization promoting the adoption of Electronic Product Code (EPC) RFID technology in that country. In 2004 and 2005, the university mapped logistics processes in the FMCG industry and began to study how RFID could improve those processes—and what levels of return on investment (ROI) were attainable. The research revealed that both manufacturing and retail companies can achieve an ROI with RFID technologies. Presently, the *International Journal of Production Economics* is reviewing a paper concerning the study.

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"Based on these results, we decided to set up the lab at Parma, where we have installed equipment to reproduce these processes,"

Rizzi explains. He claims the project was the first in Italy in which major players in the FMCG industry are cooperating with budgets and work plans. "Manufacturers and retailers of the RFID Lab's board of advisors are already discussing how to leverage this data to share gains among supply chain partners or to lower prices for the end consumer."

The RFID Lab, which opened its doors six months ago (see [Italian RFID Lab to Open in May](#)), was the first lab in Italy to receive a temporary license to test RFID in the UHF band. Most [European Union](#) (EU) member-states use the 865 MHz to 868 MHz radio frequency band. In Italy, that is the domain of the military, though there are some indications the country may open the band for other uses in the near future.

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