

RFID Trial Down Under

The project, which included Proctor & Gamble, Gillette, pallet supplier CHEP and retailer Metcash, demonstrated the EPC Network's benefits to companies throughout an Australian supply chain.

By Jonathan Collins

Aug. 2, 2006—An Australian RFID trial to investigate the sharing of RFID-collected data across a supply chain has found that the increased visibility enabled by RFID yielded real benefits to players throughout a consumer goods supply chain.

Overseen by [GS1 Australia](#) (formerly EAN Australia), the Australian National Demonstrator Project tagged nearly 500 specially marked pallets, as well as the products shipped on them, for about seven months. Ending in June, the project brought together Australian academic and government organizations, as well as [Proctor & Gamble](#) (P&G), its [Gillette](#) division and their supply chain partners.

Australia's [Commonwealth Scientific and Industrial Research Organization](#) (CSIRO) came up with original idea for the project, and [Department of Communications, Information Technology and the Arts](#) (DCITA) provided some funding.

“The goal of the project was to take the [EPCglobal Network](#) out of the realms of theory and into a reality,” says Fiona Wilson, general manager of standards development at GS1 Australia.

Although the trial was in the fast-moving consumer goods industry, the results are applicable to every industry interested in using RFID technology to create a more efficient supply chain, says Wilson. The results of the pilot, available in an [online report](#), will be used by GS1 to foster interest in RFID among Australian businesses.

Tags fitted to empty pallets supplied by [CHEP](#) were read as they left the company's site. In Gillette's supply chain, the pallets went to packaging company [Visy](#), where the tags were read as the pallets were unloaded, and again as they left Visy, after the pallets were loaded with cartons of batteries or razors. Visy then added an RFID shipment label to each pallet load.

Upon arrival at Gillette's warehouse, the shipment and pallets tags were read once more, after which each carton received its own RFID label. All pallet and carton RFID labels were read when the loaded pallets left Gillette's warehouse for a distribution center operated by logistics provider [Linfox](#). At Linfox's DC, pallets were unloaded and rebuilt to match orders from [Metcash](#), the retailer participating in the project. Each pallet tag—which was associated with the tagged cartons on the pallet—was read upon departure from Linfox and on arrival at a Metcash-operated DC. The retailer then interrogated the carton tags to identify products needed to fill orders from its stores.

A second supply chain for P&G-brand goods saw tagged CHEP pallets shipped to P&G's DC, operated by Linfox. There, complete cartons were tagged, and the tag data was used to help build palletized shipments, as per Metcash's orders. P&G tagged five product SKUs, including Pantene shampoo and conditioner and

Metamucil. The pallet tags were read when they left Linfox and when they arrived at a Metcash DC. There, where tagged P&G cartons were read as they were picked for store orders.

In total, 15 RFID portals consisting of fixed-position Alien Technology readers and antennas were deployed at seven sites, while CHEP used Psion Teklogix handheld readers. Approximately 20,000 RFID labels were employed in the trial, which utilized Alien's Gen 1 Class 1 RFID tags in labels produced by Paxar.

Each participating company installed middleware to collect and share RFID data with an EPC Discovery Service so all participants could see where every EPC tag had been read. The collected information was displayed on an Internet portal to allow all participants to view the movement of the products through the test supply chain. Both the Discovery Service and the Internet portal were developed and hosted by VeriSign.

"We wanted to prove we could share all information up and down the supply chain with more than just direct partners," says Wilson.

An additional goal of the project was to provide all Australian companies—not just those in the fast-moving consumer goods market—with an example of how RFID can be used across a supply chain.

The results, says Wilson, showed that businesses can use the EPC Network to share data, and that there are benefits to be gained by companies throughout a supply chain. CHEP, however, was "the clear winner."

According to Wilson, CHEP saw how greater visibility could help reduce its inventory of pallets by allowing it to know exactly where and when they were used. But there were also benefits for the company's customers. "CHEP could see where pallets had been hired and not used for days, so it could tell its customers how they could better use pallets," says Wilson. "Other companies saw how visibility could help with product recalls and reducing inventory."

The network was built and tested by CSIRO in conjunction with Gillette, P&G, Linfox and Metcash. Gillette and Procter & Gamble tested their own products to determine the best location for the tags to optimize the read rates. The project used middleware from Sun Microsystems to pull data from each site into a global Object Naming Service (ONS). The ONS serves a function similar to that of the Internet's Domain Naming Service (DNS), allowing users to find information related to a specific EPC number. VeriSign set up the ONS and also provided an EPC Information Services (EPCIS) database for storing product attributes and other EPC-related data.

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