

News from RFID Journal's Industry Summits

At this week's conference, attendees heard from vendors, public-policy analysts and their peers about how they could gain value from RFID in their specific industries.

By Mary Catherine O'Connor and Claire Swedberg

Sept. 29, 2006—Professionals from the aerospace, manufacturing, retail, consumer packaged goods (CPG) and pharmaceuticals industries gathered in Chicago this week for the first annual [RFID Journal Industry Summits](#).

[EPCglobal](#) president Mike Meranda opened the event on Wednesday with a membership update—941 organizations around the world, with strong growth in Asia—and provided some clarification on the emerging EPCglobal Network, dispelling what he called misnomers about what it is and who will access it.

"The EPCglobal Network is not a single, magic network that all companies will use," Meranda said. Rather, he explained, each company that generates and needs to share EPC data with trading partners will use software that exists within each firm's computer network, based on EPCglobal Network standards. These standards will ensure that any data companies choose to share with each other is generated in standard formats. Last year, EPCglobal ratified the application-level events (ALE) standard, an important software tool in the EPCglobal Network model that provides an interface for filtering and consolidating EPC data from interrogators (see [EPCglobal Ratifies ALE Software Standard](#)). Another standard, the EPC Information Services (EPCIS), for exchanging and querying RFID-related data, is in its final working draft. Meranda stopped short of predicting how soon this specification would be ratified, noting that some middleware providers are already releasing software using the draft specification.

According to Meranda, EPCglobal is making headway in its creation of a high-frequency passive tag protocol (see [EPCglobal Developing HF Tag Standard](#)). He added that at an EPCglobal meeting in Düsseldorf last week, the company convened a joint requirements group to consider an EPC standard for active RFID tags.

The group's objective is to develop requirements and guidelines for a potential specification for active RFID tags—tags with an internal power source—and their readers. EPCglobal says the formation of such a group is the first step toward developing a working group to generate an air-interface protocol for active tags.

The issues of tag data security, intellectual property, regulatory actions and consumer privacy concerns were a major focus of the Industry Summits event, which included a pre-conference dedicated to those topics (see [RFID Legal Education Should be Job One, Say Policy Experts](#)). Regarding tag security, Meranda said EPCglobal believes the focus should be not on how to protect data encoded to a tag but, rather, its meaning. "Most companies are more concerned with securing data than securing a tag," he said.

Elliot Maxwell, RFID consultant and fellow at the Center for the Study of American Government at [Johns Hopkins University](#), said in a panel discussion on RFID privacy best practices that not all companies are doing enough to address consumer privacy concerns. Sandra Hughes, chief privacy officer with [Procter & Gamble](#) (P&G), pointed out that no matter how closely P&G follows the set of privacy guidelines EPCglobal

and the [Center for Democracy and Technology](#) have developed—which include informing consumers where and how RFID tags are used to track products, and letting consumers choose whether to leave tags on products intact or deactivate them upon purchase—its actions won't have an impact unless all of its supply-chain partners, especially retailers, follow them as well.

Maxwell also stressed the importance of applying privacy and data-security protections appropriate to the application of RFID. "Identity documents need to be treated differently than a case of Pampers," he said.

Shabbir Dahod, president and CEO of e-pedigree software and services provider [SupplyScape](#), addressed how RFID data can be used for e-pedigree adoption in the pharmaceutical industry. James Dowden, director of distributing and warehouse services at drugmaker [Hoffman-La Roche](#), joined Dahod, describing the drug company's own efforts specific to using RFID technology for e-pedigree tracking. The e-pedigree system, intended to secure and streamline the supply chain by keeping an electronic trail of a product's movement from manufacturing to the customer, will maintain the authenticity of a pharmaceutical product through the supply chain, Dahod stated, adding that EPCglobal is currently working on an e-pedigree format to sign documents digitally.

According to Dahod, it will take three to five years for pharmaceutical and biotech companies, as well as their networks of wholesalers and pharmacies, to adopt e-pedigree systems. Bar-coding and serialization (the assigning of a specific tracking number to each product item) will happen fairly quickly, he predicted, while RFID will follow behind.

Hoffman-La Roche has begun pursuing RFID adoption at its Nutley, N.J., facility, Dowden said. It began in 2003 with the establishment of a team to pursue RFID, as well as bar-coding and e-pedigree. The group met with retailers, wholesalers, technology providers and regulatory bodies, Dowden said, and is now preparing a strategy for implementation. They intend to leverage existing infrastructure, Dowden said, as well as challenge IT vendors to enhance their existing product suites rather than deliver capabilities "a la carte."

Brian Millsap, vice president and chief information officer for [Hampton Products](#), provided an update on Hampton's progress with integrating RFID tagging into its business practices and using read data from Wal-Mart to gain supply-chain visibility. Hampton Products, a [Wal-Mart](#) supplier of locks and lighting products, has garnered significant attention for voluntarily tagging all of its products headed to three different Wal-Mart DCs in Texas (see [Hampton Unlocks ROI from RFID](#)).

Millsap said his company manually tags the 400 different SKUs it ships to RFID-enabled Wal-Mart DCs. Now, however, Hampton is preparing to transition to an automated tag-application process, through collaboration with applicator provider [Printonix](#). Switching to an automated process, he explained, should provide Hampton its first quantifiable payback, through labor savings, since it first started tagging products in late 2004. Millsap also showed attendees the homegrown data collection tool Hampton uses to perform basic analysis of the RFID read data it collects from Wal-Mart. This has provided the company insight into which Wal-Mart's RFID-enabled stores perform the best and the worst, in terms of keeping shelves stocked and following product promotion schedules.

At a session focusing on transponders, Dan Deavours, director of research at the [RFID Alliance Lab](#) and Ramesh Pisipati, project manager of [Bayer Material Science](#), discussed how manufacturers are developing RFID technology that can survive in harsh conditions such as those found at cattle ranches and metal manufacturing facilities. In some cases, tags need to be durable enough to withstand harsh temperature changes, abrasion and "nasty chemicals," Pisipati stated.

Bayer Material Science is developing the materials to withstand some of that abuse, such as polyurethane covers for RFID chips in cases where normal RFID tags would not survive. The kind of material used with

RFID chips can make all the difference in its effectiveness, Deavours explained. Users need to examine how well the integrated circuit is coupled or matched to the antenna, and how well the antenna and chip communicate based on their positioning in the tag.

In a session about leveraging RFID in the cold chain, Bill Hardgrave, director of the RFID Research Center at the University of Arkansas, provided preliminary results from a pilot project involving tracking the temperature of perishable goods in transit using high-frequency semi-passive RFID tags with integrated temperature sensors made by KSW Microtec.

The pilot showed that the temperature inside the refrigerated trailers used to haul the produce being tracked was not kept at a consistent level throughout the trailers. Over a haul of many hours or days, this inconsistent temperature would likely shorten the shelf life of some produce items. Being able to pinpoint which pallets carried the produce exposed to the highest temps would enable retailers to ensure that the produce with the shortest expected shelf life is sold first.

Some challenges to deploying such temperature-tracking systems successfully, he noted, would be a system for collecting and recycling the temperature-tracking tags, due to their high cost (up to \$10 each), as well as the need to calibrate the tags' temperature sensors to take accurate readings in transit.

Hardgrave says the RFID Research Center expects to release the full results of the cold-chain pilot later this year.

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