

RFID NEWS

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MARKET & BUSINESS NEWS

RFID Forecasts - The tagging of items with radio frequency identification (RFID) will take off in 2007 to become the biggest market by value by 2016 as prices fall dramatically. RFID has long been touted as the future of logistics for all companies by allowing retailers and suppliers to track goods throughout the supply chain. Regulations on traceability and mandates from such giant retailers as Wal-Mart and Metro are slowing forcing processors to make investments in the technology at the pallet and case level. High prices for tags and systems have been the major barrier to item-level use. Item-level tagging refers to the use of the technology with the smallest unit of saleable goods, such as luxury foods and drinks. IDTechEx said its research indicates that item level tags and systems will be the world's largest RFID market by value from 2007 onwards. Item level RFID tagging will rocket to \$13-billion in 2016 from \$0.16 billion in 2006 for systems including tags. In 2006, about 200 million items were RFID tagged around the world. The firm predicts that 550 billion items may be RFID tagged in 2016. The biggest item level potential involves uniquely coding very high volume products, such as consumer goods, postal items, apparel, books, drugs and manufactured parts. These total 5-10 trillion items a year, IDTechEx stated. They also noted that the US Food and Drug Administration would make tagging of up to 20 billion prescription drugs a legal requirement in that country. Globally, healthcare supplies, tools and assets are being urgently fitted with RFID for safety, security and cost control, including theft reduction. Boeing and Airbus are progressing the tagging of aircraft parts and equipment. To get to that widespread use of RFID item-level tagging in low cost goods such as most foods the technology will have to evolve. Due to technological developments, such as RFID ink, IDTechEx believes that the average price will reach just less than one cent for an item level tag in 2016. This average covers a range from 0.1-cent primitive ink stripes and thin film transistor circuits to \$8 tags for aircraft parts to high specification and even more expensive military tags.

National Retailers Conference Summary - RFID is poised to help retailers and service providers enhance customers' experiences and deliver precise ad messages, according to panelists at the National Retail Federation show. Soon, RFID could track items as customers pick them up from store shelves throughout America and immediately trigger displays with very specific information and advice - like which top will match those pants you're holding and where exactly you can find that top. RFID is poised to help retailers and service providers tap into the seemingly infinite potential for enhancing customers' experiences and delivering precise ad messages, according to members of a panel at the National Retail Federation show at the Jacob K. Javits Convention Center in New York City.

Panelists said that after a year of hype (2005) and a year of validation (2006), RFID would likely bring advancements in terms of how to apply the technology so businesses can glean and share information about customer behavior and their own inventory, then act on it. BestBuy employees restocked and organized CDs and DVDs more frequently and more enthusiastically when RFID did some of their work for them. An RFID application that created a list of out-of-place and under-stocked items made the employees' jobs easier, said Mark Roberti, panelist and founder and editor of RFID Journal. The technology can trigger surveillance cameras in some stores when an item or box goes into a dumpster out back. It also can mark the time an item left a stockroom and vanished, allowing investigators and prosecutors to view video footage from that time to build theft cases.

Panelists Comments - "Whether people have it at item-level tagging, or for the movement of assets, it's important that the retailer look at it holistically in order to get the full value," said Rachael McBrearty, VP of creative strategy for IconNicholson. "At the end of the day, the customer experience should come first." Frank Cornelius, an advanced manufacturing engineer at New Balance, agreed that the main challenge for RFID implementation - and focus of those in the industry - is to figure out how to gain more business value from it. He said that his company used it in an item-level tagging pilot project in April 2006 and reported a 100 percent read rate, which means the system was able to track all of the merchandise. Now the company plans to use it for inventory in at least one store, although it will have people count the inventory to make sure the new technology is effective, Cornelius said. Experts on the panel said RFID also would be integrated with online applications so customers inside stores can obtain the same type of information there that they dig up online. Patrick Sweeney II, author of RFID For Dummies (ForDummies; 2005), said if companies want the level of success that New Balance is reporting, they should require 100 percent read rates and be sure to include language about the requirement in service level agreements. Roberti said that trust and service would differentiate one retailer from another as stores begin using similar technology. He said customers would trust retailers if they have some control over the technology and believe the companies would use it to better serve their needs, like replenishing the beer they just finished off. Said Roberti, "That's where I would be looking with RFID."

Contactless Credit Card Market - MasterCard is currently introducing contact-less payment credit cards (a form of RFID). Infineon won an order from credit card firm MasterCard Inc to deliver chips which allow contact-less payments. MasterCard is currently introducing credit cards with these chips in 13 countries, including the US, Australia and Taiwan. Infineon also delivers such chips, which allow payments that don't require the card to be swiped magnetically, to MasterCard rival Visa International Inc. The market for contact less payments is expected to grow 63% on average every year in the next 5-years per Frost & Sullivan.

Taiwan RFID - One focus of the Taiwan government is on RFID technologies, including chip modules and Gen2 Tags, or ultra-high frequency chips developed around the EPCglobal standard for second generation EPC technology. EPCglobal is a non-profit

group set up to maintain barcode standards and commercialize related technologies. Taiwan's RFID product sales were up 15.3% in 2006.

TECHNOLOGY/NEW DEVELOPMENTS

New RFID Reader Chip - STAR's Institute of Microelectronics has developed a silicon microchip set to open up new markets for sensors in the radio frequency identification market. The institute, together with its industry partner SMART ID, is aiming working on chips and readers. This integrated circuit reader market is expected to grow at an average annual rate of 130% to \$1-billion by 2009. STAR claims, that by integrating many components all onto one chip, the size becomes very small. And because of integration, the cost has also come down, so new applications will become possible in the consumer area. That will generate higher volume, which should also reduce cost in future. Industry players say existing readers are now made up of about 600 component parts and can cost over US\$1,000 to produce. [*While it's good that Star is working on reader cost, the BIG problem is still assembled tag cost*]

mPhase Technologies RFID Batteries - The company announced that it is creating a version of its Smart Nanobattery optimized for use in active RFID (Radio Frequency Identification) applications. mPhase is working with an East Coast headquartered company that specializes in complete RFID security solutions for diverse commercial applications. RFID is a radio transmitter sensor technology used for security and tracking systems. Active tags are used to keep track of high value inventory items and capital assets, such as shipping containers, medical equipment and automobiles. The new Smart Nanobattery architecture promises an energy source that can be packaged in various configurations, with shelf life lasting decades, yet still able to be activated almost instantaneously on demand. Various battery designs based on this technology may deliver a new and unique component for system design across many fields, including defense, industrial and consumer electronics.



RFID Chip in Plastic - A new RFID chip has been developed by Pliant and IBM that can not only track drug products through the supply chain but also identify when a product has been tampered with. US-based leading packaging manufacturer Pliant has teamed up with IBM to develop the tamper detection technology on a pilot-scale. The technology combines plastic packaging film, circuitry and RFID tag to track down where in the supply chain a package has been interfered with. The smart technology market is driven by the need for new clinical trial compliance and brand protection measures, with the demand for new developments within RFID used in pharmaceuticals creating a market valued at \$18 million during 2005. And it will potentially reach to \$464.8 million in 2012, according to a Frost & Sullivan report. The tamper monitoring system works by combining stretch wrap - printed with conductive circuitry - and RFID technology. The combination of chip and stretch wrap functions as a powered circuit around the package. If tampered with, the RFID chip will cease to function effectively and allow users to track down the point of interference using a RFID portal system or by a hand held device. The pilot project tracked and traced shipments between two of Pliant's facilities, one in Newport News, Virginia and the other in Chippewa Fall, Wisconsin.

APPLICATIONS/CASE HISTORIES

RFID for Transportation Tracking - Executives at The Dow Chemical Co. believe there's a future for RFID within manufacturing operations. The chemical and plastics producer already implemented an RFID system combined with global positioning system technology for its rail fleet and will begin another pilot program for intermodal containers this year. Dow hopes RFID will provide greater visibility and traceability of chemical products as they move through the supply chain. Dow is one of several manufacturers touting RFID's benefits. To date, most manufacturers have used RFID only to comply with corporate and federal tracking mandates because of high implementation costs. That could be changing as tag prices continue to drop. Currently, RFID tags cost about \$.010 to \$0.20 cents, and that is a 50% to 75% drop over the past year. But industry experts and published reports suggest RFID costs still outweigh any of its purported supply chain benefits. Tag cost is still a barrier to adoption when using RFID to track cases and pallets in the supply chain. Dow is using tags on rail tank cars [photo]. A stronger business case exists for RFID in application, such as the ones used by Dow. Manufacturers are shifting their attention in terms of RFID is in physical asset tracking, keeping tabs on the location of assets within the warehouse like tools, racks and forklifts, as well as on-the-road identification and tracking of trailers and containers. Dow has affixed rail cars with RFID tags that provide information about what's in the cars along with a GPS system that informs the company about the cars' location. Dow hopes to increase safety and efficiency by monitoring routes and locations of rail cars carrying hazardous materials. With the intermodal pilot, Dow is looking to gain improved visibility of cargo as it moves to international ports. Dow estimates that its RFID pilot projects will take 10 years before they reach their full payback potential.



Different Tactic - MINI-USA has begun a pilot advertising campaign in Chicago, New York, Miami, and San Francisco, which gives select Cooper owners the chance to get an RFID keyfob in the mail, and moreover, a reason to consistently drive under MINI billboards. MINI USA sent emails to select owners asking them to join the “pilot” version of a new program called Motorby. The program features the same interactive digital billboards. Users can select a custom message to be encoded on their RFID chip, and when they cruise near an overhanging MINI billboard, their particular message lights up for the world (or at least nearby motorists) to see. Messages will be edited before delivery to keep it clean and sane. So if you're a MINI owner in one of the four cities, keep an eye on that inbox, and word on the street is that MINI USA is planning on hitting up more cities if this proves to be a smash hit.



Germany Developing Sensor/RFID for Meat Quality - This research comes as new regulations require food processors to track ingredients from their immediate suppliers and the products to their retail or distribution points. The requirements have pushed organizations to search for technological solutions allowing them to track and record items. Recent scares involving food, notably the case where German authorities uncovered 110 tons of rotten meat at several warehouses destined for European Union consumers, have also prompted organizations to find ways to prevent such abuses in the future. FreshScan, a project funded by the Federal Ministry for Education and Research (BMBF), is being coordinated by the Fraunhofer Institute for Reliability and Micro-integration (IZM) in Berlin, which focuses on assembly and packaging technologies. The 3-year project, which began in mid-2006 aims to develop a 2-component system consisting of a semi-active RFID tag with temperature sensors to monitor the condition of meat, and record temperatures on a continual basis. The second part is an RFID reader with an optical detector. The device uses a laser to analyze the light spectrum in which chemical changes of meat can be detected and the condition is loads into the RFID tag. Processors will attached the tag inside meat's packaging, and the sensor on the RFID tag will take temperature, moisture and light incidence reading during intervals, recording this information on the tag. At any points during the supply chain the condition of the meat and the environment that the meat has been subjected to, will be available to processors. Other partners of IZM include the Ferdinand-Braun-Institut für Hochofrequenztechnik (FBH), which is developing the optical detector. The Federal Research Center for Nutrition and Food (BfEL) is defining those chemicals and positions in the radio spectrum that should be monitored by the system. The Leibniz Institute for Agricultural Engineering Potsdam-Bornim (ATB) is defining the freshness parameters of meat and how the condition should be read by the sensors. The Technical University of Berlin (TU) will be designing the software needed to run the device. A further two professors are studying the chemical makeup of meat samples as they age. The project is still at the conceptual stage and no commercial partners are currently involved. When the project is complete, developers hope to have a working demonstration model that will need commercial backing to bring to market. The development could also be useful for ensuring the credibility of the EU's geographical indications certification system, which protects producers of traditional foods.

GOVERNMENT/ASSOCIATIONS

RFID Technology Council - Eight technology trade groups, including Microsoft, Verizon and Motorola are among members who have formed an ad hoc council to promote the use of radio frequency identification technologies. RFID tags embedded in office supplies, cargo containers or even weapons can help agencies and companies keep better track of their inventory, proponents say. The Department of Defense and Wal-Mart Stores Inc. have been touted as examples of users of the technology to help save costs in supply chains. However, the technology is still too expensive for widespread use, and international interoperability standards have yet to be developed. The RFID Technology Council will support the U.S. Senate RFID Caucus, which was formed last summer to better understand RFID technology and its potential benefits. The trade groups include the American Electronics Association, AIM Global, European-American Business

Council, IEEE-USA, which is a unit of the Institute of Electrical and Electronics Engineers, the Information Technology Association of America, the Information Technology Industry Council, the International RFID Business Association and the Semiconductor Industry Association.

Homeland Security Dropping RFID program - U.S. Homeland Security Secretary



Michael Chertoff told a House committee hearing his department is dropping plans for RFID tags. Chertoff told the Homeland Security Committee hearing on his department's budget a test of RFID tags was unsuccessful. "We're abandoning it. I think it's not going to be a solution for keeping would-be terrorists out of the United States", Chertoff said.

MANUFACTURING

Nothing new to report.