# RFID NEWS
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**ET** TRENDS

## MARKET & BUSINESS NEWS

**China Top RFID Market -** RFID vendors had a banner year in China in 2007, according to two different reports. The estimated volume was $1.9 billion in 2007, or 38% of the $4.96B global market per IDTechEx. But much of that was due to huge government spending on China's national ID card program and investments for the Beijing 2008 Olympics, and this will result in investment volumes dropping going forward. Spending in support of transportation management systems, was a major contributor as well, according to Beijing-based Analysys International, a leading advisory firm on technology, media, and telecom industries in China. Applications in marking and tracing management of trays and containers and other supply chain applications will be the leader in this area. In manufacturing, Automobile, household appliances, and digital products will be the biggest sectors for growth. China will embrace global RFID standards to avoid higher transfer costs and other transnational problems for users*. [China originally drew up a copycat internal standard to get around license fees, but it has turned into chaos with false economy.]*
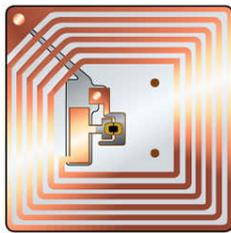
**Wal-Mart Canada is on Track with RFID** - 20 stores are equipped with RFID readers and a dozen suppliers tagging shipments of goods bound for those stores. Wal-Mart Canada's nascent RFID deployment is up and running. And while the scope of Wal-Mart Canada's RFID deployment is dwarfed by that of its U.S. parent company, which involves more than 1,000 stores and 600 suppliers, that doesn't mean the technology's potential impact on the 278-store Canadian chain is insignificant. Estimates for the RFID impact are in the millions of dollars. Wal-Mart Canada is presently focused on using RFID technology to **eliminate product out-of-stocks** as an initial area of benefit. Each RFID-equipped Canadian Wal-Mart store is now reading tagged cases of product moving through its loading docks, as the cases are brought onto and off the sales floors, and as the empty cases are placed into box crushers. In addition, some of the dozen suppliers involved in the RFID implementation are tagging the displays used for showcasing promotional products, to improve visibility into whether the displays are being moved to the sales floor according to schedule. The equipment is performing well, with a 99.5% read rate since the stores began reading tags this summer. While the company has not yet gathered definitive data regarding out-of-stock reductions or sales lift based on its RFID use, it has seen a 42% reduction in manual orders placed by store associates across the 20 stores using RFID. Source: RFID Journal.

**RFID Tagged Foodstuffs by 2013 -** RFID chips will tag all processed foods and some food ingredients by 2013 in Korea. KFDA (Korea Food & Drug Administration) disclosed Thursday that it plans to phase in the food tracing system from next year to 2013 in which RFID chips will be tagged on foodstuffs to provide consumers with "past record" of food ranging from ingredients to consumption and also to expedite tracking and withdrawal of problematic foods in the event of food safety accident. A RFID chip adopted by the food tracing system includes the past record of a given food such as the dates of manufacture and expiration, the distribution channel and the home of ingredients which will be used as information for withdrawal of foodstuffs that are recognized unsafe including harmful metals, agricultural chemicals and animal antibiotics. The record of food via the RFID chip is to be provided real-time to consumers, distributors and sellers via the KFDA homepage, the Internet as well as mobile handsets equipped with the RFID reader function that are soon to be introduced in the market, KFDA said. Source: Maeil Business Newspaper.
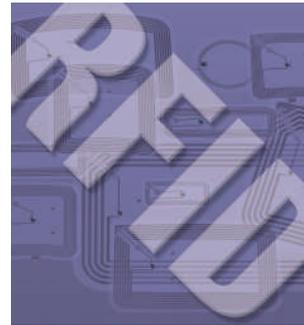
**DoD Tagging 97% of Supplies to Iraq** - Showing how important the Department of Defense considers its RFID initiative, already 97% of the supply pallets currently sent to forces in Iraq are being shipped with RFID tags. As for the rest of the mandate, getting the DoD's RFID program up and running is reminiscent one of the clichés of military life. "Hurry up and wait." Last year, DoD announced it was deadly serious about making their Jan. 1, 2005, RFID mandate real. That deadline has come and gone and contractors are still waiting for the Defense Federal Acquisition Regulation clauses that detail RFID tagging requirements for new contracts. CR80 News.

**US Tax Court Goes RFID** - The US Tax Courts will use RFID technology for tracking in the office environment. The US Tax Court has selected the FileTrail RFID Tracking Solution for national rollout across its US facilities. RFID will help the courts track and manage assets in the Court's main office in Washington, DC, as well as its remote offices nationwide. FileTrail RFID tags can be read from a distance up to 10 feet, while those in the library are limited to a 10-inch distance. Additionally, the cost of FileTrail RFID tags are less than half the cost of the RFID tags in the library. Source: Business Intelligence.

**RFID is in Fashion** - The fashion industry leads the way in RFID application at every stage along the supply chain. It's all about having the right goods at the right time – in season. RFID can revolutionize stock management and drive up sales. Global Identification takes a look at what can be gained by adopting the technology in fashion. Fashion is a perishable commodity and retail success is dependent upon having the right item in the right style in the right size in the right place at the right time – when a customer wants it. While the

concept sounds simple, making it a reality is anything but so. Fashion merchandise moves along global supply chains in enormous proportions – estimated to be in excess of $182.3 billion annually according to the NPD Group, and according to a study conducted by the Harvard Business School 8% of all items are out of stock at any given time costing the top 100 retailers an estimated $69 billion annually as cited by Stores Magazine. Couple that with the fact that often merchandise is in-house in the backroom or fitting room but not available to the consumer due to inefficient receiving or recovery processes. Apparel trends change quickly making it difficult for retailers to predict demand. Ordering too much product can erode retailer's bottom line via markdowns or costly transfers to make room for the next seasonal wave of fresh fashion. Ordering too little can lead to missed opportunities and lost sales; not to mention diminished customer satisfaction. Also, the ripple effect of not having merchandise at hand to sell reaches far into the future with distorted views of what might really have sold if only in-stock. Inaccurate inventory records further compound the problem and lead to traditional costly and labor-intensive inventory counting practices. All of this makes the **apparel industry a good target for RFID**. Source: Global ID.

**RFID Patent Pool** - The official announcement of the RFID Consortium LLC, with seven inaugural members, was made recently. The purpose of the organization is to provide "one-stop licensing" of intellectual property essential to compliance with EPCglobal Gen2 and related ISO/IEC standards. In addition to formally establishing the LLC, the organization has submitted a letter to the US Department of Justice requesting formal review and approval. It has also issued a call for other holders of essential RFID intellectual property to license it through the Consortium. The effort behind the organization, sometimes referred to as a "patent pool," first began more than two years ago. They've brought together holders of patents essential for UHF RFID products and agreed on the definitive terms of the licensing arrangement; and established an LLC to manage the arrangement.

The patent pool concept, which has proved successful in other high tech areas such as DVD and MPEG-2, is that by consolidating the IP licensing process under one roof, a technology standard can achieve accelerated adoption. Each participating company confers to a third-party administrator, the consortium, the management of its IP licensing, thereby saving the considerable time and resources the company would otherwise have to invest developing licensing agreements with individual licensees. Similarly, licensees are spared having to painstakingly approach and negotiate a separate licensing agreement with each IP holder in turn; they can simply go to the consortium to subscribe to a standard licensing scheme available for all the relevant RFID patents of the participating licensors. In the meantime, the Consortium is encouraging participation from more prospective licensors that believe they hold essential IP and would like to benefit from licensing through the pool. **Via Licensing is the IP licensing services firm charged with managing the RFID patent pool** and the Consortium's business functions. Via will also handle the licensing, once federal approval for the Consortium is granted.

The Consortium itself actually has no full-time employees. *[Not everyone thinks that a patent pool is a good idea. Intermec is suing Alien Technology for patent infringement; Gilleo is the expert witness for AT].*

## TECHNOLOGY & PRODUCTS

**RFID Reusable Containers** - One of the world's largest field tests to combine RFID with returnable packaging has been launched by an industry group. The Reusable Pallet & Container Coalition (RPCC) said the US field trial involves shipping produce in thousands of reusable containers with affixed RFID tags being used throughout the supply chain, from the wet and cold conditions of grower fields, to the rugged and repeated handling of distribution centers, and on to retailers. Perishables are shipped under the most demanding conditions and a successful field test with perishables will provide convincing evidence of the feasibility of using RFID technology with reusable transport packaging in a wide range of other industries, including automotive, beverage, pharmaceutical, and others.

The test mirrors a similar RFID project conducted this year with produce containers in the EU, known as Fresh Chain. The field test in the US will include the involvement of Tanimura and Antle, Stemilt, Wal-Mart, Frontera, the Kennedy Group, Avery Dennison, Alien, UPM Raflatac, Impinj, IFCO Systems, Georgia-Pacific, and Orbis. RFID technology is helping to transform logistics by providing a means of tracking and tracing individual products throughout the supply chain. The involvement of Wal-Mart is particularly important, as the world's largest retailer is slowly requiring that all of its suppliers switch to the technology by specified dates. However, the technology still suffers from glitches, in the main caused when readers fail to register tagged pallets or boxes due to failures or damage to the tags. There has never been an RFID-related field trial of this magnitude in the US with so many key supply chain partners.

If the field trial results match the data from the laboratory testing, it will prove unequivocally that reusables are the enabler to the cost-effective use of RFID technology. During the laboratory trial, 230 reusable containers with nine different EPC-compliant,

Gen 2 RFID tags were tested at the Michigan State University lab. The containers were subjected to sinusoidal vibration and drop tests on all edges as well as repeated cleaning and handling. In addition to proving durability, the data demonstrated that it is possible to get 100 per cent read rates 100 per cent of the time which has never been achieved in the industry before. In the field trial that is currently under way, reusable containers with the multi-cycle RFID tags are being used in grower fields in Washington and California where they are being subjected to mud, varying weather conditions, and rough handling in the field. From there, the containers are shipped to Wal-Mart distribution centers, where the produce is cleaned and the containers and tags are subject to washing, further handling, refrigeration, and storage before being sent to retail stores. Once the produce is delivered, the containers are collapsed and sent back through the supply chain for further cleaning, handling, and storage. Each container goes through a minimum of three cycles of use. At the end of each cycle, the RFID tags are tested for viability, and then re-encoded for the next cycle. RPCC expects to complete the six-month field trial in spring 2008. Once completed RPCC will develop an economic model for integrating RFID tags with reusable transport packaging. The RPCC is a non-profit association representing manufacturers, poolers, distributors, and others involved in the reusable transport packaging industry. Source: Food Production Daily.

**RFID Temperature Logger** - Intelligent Devices Inc. (a subsidiary of smart packaging



experts Information Mediary Corp.) in partnership with Evidencia LLP, announces the immediate commercial availability of the Log-ic® ThermProbeRFT, the only passive Radio Frequency and wireless probed temperature recorder available in the world. The unit combines the wireless benefits and accuracy of RFID and is an extension companies RFID and sensor lines. The product has been for 12 months prior to its official release. Aside from its obvious wireless benefits and the ability to check and download the entire time & temperature history of sealed boxes or pallet centers, the Log-ic ThermProbeRF offers a neutral form factor (flat as a credit card) for better stacking and less breakage versus other non-wireless probed temperature recorders as well as an extremely fast response

time and the ability to scan actual temperatures on the fly, thus combining the benefits of a pulp thermometer and of a recorder. Additionally, our wireless solution is generally less costly, faster and requiring less labor than other standard probed temperature loggers. Log-ic Thermassure RF Loggers weigh 6 g, are 5 cm square and 3 mm thin. The RFID sensor tags capable of maintaining a 4000-point temperature log in its onboard memory; frequency is 13.56 MHz RFID. A handheld data collection device with up to a 400-meter range from any assigned base



station is being previewed and made available to select customers for the first time at this event. Source: IDTechEx.

## MANUFACTURING (not much to report)

**Top RFID IC Makers** - NXP Semiconductors has been ranked at the top of the latest Vendor Matrix released by ABI Research. EM Microelectronic and Texas Instruments claimed the second and third spots.

## APPLICATIONS

**RFID for Mines** - Ship2Save (Sudbury, Canada) successfully installed a material tracking system using RFID technology at CVRD Inco's Stobie Mine. The system is designed to track ore movement throughout its excavation process, provide and granular



and accurate data records that can be used to execute more informed production, maintenance, and process decisions. The technical deployment combines Avery Dennison Corporation Ultra-High Frequency (UHF) RFID tags, Motorola, Inc. mobile and fixed UHF readers, along with Ship2Save Inc.'s RFID Raw Material Tracking software. The integration required the careful analysis of the processes involved to blast, survey, excavate, and extract nickel. Ship2Save Inc. field engineers performed onsite field tests to assure both readability and structural integrity of the tags were maintained through various read points along these processes. They also performed various RF fingerprint analysis and tested various RFID antenna configurations to determine the optimal infrastructure setup. The value behind the system lies in its ability to automatically collect information of ore movement throughout the entire extraction line. This information is recorded and provided to an application system that provides records to other parties and/or additional application systems within an organization. This real-time data can then be used to optimize ore processing. This can include proactively informing surface-level personnel of upcoming ore yield, location, and additional variables, allowing these personnel to make decisions based on current rather than forecasted information. The system is currently deployed at CVRD Inco facility in Sudbury, Ontario where it monitors nickel extraction at the Stobie Mine, one of the several CVRD Inco mines in the Sudbury region. It collects process data 24/7 as field engineers monitor its day-to-day progress. Source: Automation.



**More RFID for Miners** - VUANCE, Ltd., a provider of innovative Radio Frequency Verification Solutions, including active RFID, electronic access control, credentialing and incident response management, announced that its AAID Active RFID solutions are being

implemented by Anglo America's Chilean copper mines to increase safety and productivity. Earlier this year, a four-month pilot program was launched at Anglo America's El Soldado site in central Chile to provide real-time location information concerning miners inside tunnels. It focused on identifying miners both after normal shift changes and when blasting or emergencies make evacuation necessary to assure workers safety. As part of the program, an anti-collision system also was tested where a flashing light and buzzer warned front-loader operators that people or minor vehicles were within a 65-foot proximity radius safety-zone. Because VUANCE's AAID active tags have long read-ranges, workers did not have to get out of their vehicles to identify themselves, a process which normally causes delays. Further, by relying on the accuracy of tag reading as people enter the working area, rather than the traditional system of having people check in using a card identification system, the site was able to reduce the rate of check- in errors. Source: Comtex.



**RFID for Chinese Pigs** - Guangdong has improved the quality of information about live swine the southern China province exports to Hong Kong through attaching RFID tags to an animal's ear. The Guangdong Inspection and Quarantine Bureau deputy director said the province started the pilot program of installing the tags on Hong Kong-bound pigs at a farm in Heyuan City earlier in 2007. The electronic tags provide more accurate information about the pig's history, and includes breeding sources, feed, vaccination and immunization, among others; RFID technology also greatly improved the efficiency of quarantine and inspection officers. Since March, 640 pigs equipped with the tags have been exported to Hong Kong. All were in compliance with the Special Administrative Region (SAR) government's health requirement. The technology is mature enough to replace the existing method and is expected to be applied to other exports. Guangdong consumed about 60 million live pigs annually. It provided 2,030 pigs to Hong Kong and Macao each day, about 40% of the pork supply. The rest came from other Chinese provinces. Source: Xinhua

**VeriChip Implantable RFID Glucose-Sensing Microchip** - VeriChip, a provider of RFID systems for healthcare and patient-related needs, and its project partners Digital Angel and Receptors LLC, announced that they will host an event for the medical, diabetic and investment communities to unveil details, including plans to build a prototype self-contained implantable bio-sensing device included in an RFID microchip that will have the ability to measure glucose levels in the human body. Millions of patients with diabetes utilize needle sticks to monitor levels of glucose on a daily basis. Through the Microchip, patients are expected to be able to track glucose levels without the constant invasive and painful effect of a needle. They will issue a "white paper" describing the features, benefits and technology underlying the development of its revolutionary self-contained implantable glucose-sensing device. According to the Centers for Disease Control and Prevention (CDC), as of 2005 diabetes affects nearly 21 million Americans – or 7 percent of the U.S. population, including an additional 2.6 million people with diabetes since 2002. Another

41 million people are estimated to have pre-diabetes, a condition that increases the risk of developing type 2 diabetes – the most common form of the disease – as well as heart disease and stroke. *[Now that states have started passing laws against implanting RFID tags, this should stir things up, even though the laws allow implantation by consent.]* Source: MedGadget.

**RFID for UCSF Medical Center** - The University of California, San Francisco (UCSF)



Medical Center announced it has selected San Diego-based Awarepoint's Real-time Awareness Solution® as their asset-tracking partner. Awarepoint's RFID was chosen to efficiently track the location, status and movement of the hospital's mobile medical equipment. With the installation of Awarepoint, the UCSF operating rooms' equipment will be reliably retrievable within minutes including weekend and after hours shifts. UCSF Medical Center's project team reviewed active RFID options from six proposals from numerous RFID technologies. The selection process then required an on-site proof of concept. For the on-site proof of concept, each candidate was given a total of six hours to install their system in multiple buildings, demonstrate the various scenarios requested by UCSF Medical Center and finally remove the system. Awarepoint's ZigBee sensor network needs no hardwiring or fixed infrastructure: wireless sensors simply plug into electrical outlets to form the self-healing Awarenet™ mesh network, then small, battery-powered tags are securely attached to assets, which are tracked using the web-based Searchpoint™ search engine. This patented technology allowed Awarepoint to successfully complete all tasks within the allotted time. The contract was awarded to Awarepoint with a score of 81% overall; a Wi-Fi vendor received an overall score of 63%. Within 2 weeks following the contract award, Awarepoint has been deployed and over 700 assets were tagged in less than 48 hours. Source: eMedia Wire.



**Malaysia RFID Visas** - The Malaysian Immigration Department is planning to introduce RFID chips in visas issued to foreign nationals. The new visa would enable the authorities to locate and monitor the movement of foreigners who had overstayed, Parliamentary Secretary to the Home Affairs Ministry Paduka Abdul Rahman Ibrahimsaid. It would also make it easy for the authorities to verify the authenticity of visas. The government detects about 400 fake visas each year, but there is no estimate at the number that get through. The department also adopted an integrated immigration system which uses a single platform for the purpose of information sharing at entry points, he said. So far, 26 of 150 entry points nationwide had the system installed. Source: China View.



**RFID and GPS in School Buses** - AT&T announced the availability of "black box" type solutions for K-12 school busses, working toward a day when school vehicles can be tracked like aircraft. The devices provide GPS-based mobile resource management (MRM) solutions, tracking school bus locations, monitoring their speed and providing

on-board driving information to bus drivers. In addition, the devices support RFID tagging, which tracks the presence of students equipped with Wi-Fi-based RFID tags which can be placed in ID badges, bracelets or keychain fobs. This type of RFID tag is called "passive" because it does not require a battery, and it can only be read from a short distance away. It also provides a limited amount of data storage, and is therefore best suited for the simple tracking that would take place on or around the bus, and in school buildings. According to the National Advisory Committee on Children and Terrorism's report, June 2003, 53 million young people attend more than 119,000 public and private schools where 6 million adults work as teachers and staff. On any given day, the report therefore states, more than one-fifth of the US population can be found in schools. Security for this segment of the population has therefore become increasingly important, and some groups have expressed interest in technologies such as those AT&T provides. There is no report yet of where initial deployments of AT&T's MRM/RFID solutions will be. However, AT&T recently signed an agreement with the state of Texas Governor's Division of Emergency Management (GDEM) to provide emergency evacuees with RFID bracelets, to best direct the evacuation process. Source: Beta News.

**RFID Technologies for the Paper Making Industry** - Sonoco and IPICO announced an



agreement to co-develop and commercialize RFID technology for the paper making industry. The agreement will enable the development of an RFID tracking solution for Sonoco's paper making tube and core customers. The optimum RFID solution for the papermaking industry requires a tag to be incorporated into the paper roll, at its core, so that the roll can be tracked from the paper machine winder to the point of use. Standard-issue low frequency (LF), high frequency (HF) and ultra high frequency (UHF) tag technologies to date have not met customers' performance expectations due to the high carbon and water content of paper, which can result in signal interference and data loss. IPICO's Intellicore tag and reader solutions, based on the unique IP-X-based Dual Frequency RFID technology, solve the signal problem and address the unique requirements of the paper industry. These include the need to read shafted and shaftless winding equipment; inventory tracking in a variety of paper handling scenarios such as roll clamps and roll stands; and monitoring the location of clamp trucks as they move throughout the operation. The paper industry produces hundreds of millions of rolls annually and to date has not had a reliable, real-time electronic tracking solution. This new level of inventory management and control can deliver a rapid, measurable return on investment. Source: Comptex News.

**RFID for Monsanto Seed Packets** - Given the traditional unpopularity of GM crops in some places, the application of RFID at a biotechnology foods specialist might appear to be a good idea - or a marriage of evil technologies. US food biotech giant Monsanto, plans to try out RFID to tag and track individual seed packets. Monsanto wants to track the packets to see if using RFID tags instead of bar codes will cut the amount of time staff spends in shipping cases of seeds from its research and development facility in Wisconsin to its network of farms where the crops are tested. Source: Computer Weekly.