RFID NEWS
August 2007
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ET TRENDS

MARKET & BUSINESS NEWS Note: Enthone was provided with a comprehensive PowerPoint presentation (115 slides) that included RFID manufacturing on 8/29/07.

RFID in China - China has become the world's largest market for RFID by value. In 2007, the spend on RFID in East Asia will be $2.7-billion of $4.96-billion spent globally. The majority of this, $1.9-billion, will be in China. This is because of a peak in delivery of contactless national identification cards in China prior to the 2008 Olympics. About $1.65-billion is being spent on 300-million of these cards plus their associated systems being delivered in 2007 out of a project commitment of $6-billion, the largest of any RFID project in the world. Add to this $250-million in other RFID tags and their systems, most of this related to transport, cash replacement and secure access cards, and the resulting $1.9-billion is 38% by value of the $4.96-billion global market for RFID cards and systems in 2007. However, as the deliveries of the national ID card saturate, China will drop below the US and probably Japan in value of its RFID market but that market will nonetheless be growing very fast. Within ten years it will more than compensate for the drop in delivery of national ID cards, buoyant sectors including animal tagging, transport, cash replacement cards, secure access, manufacturing, military and supply chain applications. Source: IDTechEx.

RFID Suppliers in China - The leading 12 RFID companies account for $722-million of the Chinese RFID market size in 2007, 36.8% of the total $1960 million RFID market in China, according to IDTechEx. The top 8 RFID operations in China were all contractors of the national ID card scheme. Huahong Group comprises two major subsidiaries: chip manufacturer Huahong NEC and chip designer Huahong IC. Both companies were appointed as supplier for national ID card project. Likewise, Datang Microelectronics received orders for both chip design and chip module encapsulation. SMIC is a top 10 semiconductor foundry in the world. Datang and Eastcom Peace were among the top 8 smart card manufacturers in the world. 200 other local and foreign suppliers share the remaining $1.238-billion market value. These suppliers include foreign chip suppliers who had played a major part in RFID applications in China. For example, NXP supplied chips for the Beijing public transit cards and campus cards, and Inside Contactless won the Ministry of Communication order for the 7 million transportation certificate. Other chip suppliers active in Chinese market include Texas Instruments, STMicroelectronics, Infineon, EM Microelectronics, Atmel, etc. Meanwhile, leading local RFID companies are achieving significant growth. Invengo had implemented the $80M RFID project for Ministry of Railways. Other major players include Vision Electronics, Sample, and Hsic. It also includes numerous local interrogator suppliers and system integrators for contactless smart card rollouts in their respective cities, such as national ID cards schemes and public

transit cards. For example, Shanghai Public Transport Card Co (SPTCC) was founded in 1999 by local government, major transportation companies, and technology suppliers located in the city. The sole purpose of this company is to implement and coordinate the public transport card project. State-owned companies of similar structure and function had been established in Beijing, Guangzhou, and most of the other 80 cities with transit card schemes ongoing. Annual sales revenues of these companies vary from several million dollars to tens of thousands. In addition, Western companies are increasingly partnering with Chinese ones or outsourcing inlay production there. Source: IDTechEx.

End User	Category	Application	Tag Volume
China Railway nationwide rollouts	Passenger Transport, Automotive	RFID ticketing	3 billion per year
Nationwide roll-outs	Animal and Farming	Live pig tagging	1.3 billion per year
Food and Drug Administration	Financial Security Safety	Anti-counterfeiting drugs	over 1 billion per year
Nationwide roll-outs	Books, Libraries, Archiving	Book tagging	500 million
Major appliance manufacturers	Manufacturing	Production line management	hundreds of millions yearly
Nationwide roll-outs	Animal and Farming	Pet dog tagging	150 million
National Tobacco Project nationwide rollout	Retail Consumer Goods	Anti-counterfeiting, logistics	37.5 billion cigarette packs yearly starting with over 100 million cases yearly
China Post nationwide rollouts	Land and Sea Logistics, Postal	Mailbag tracking	100 million
Chinese government mandate	Financial Security Safety	Firework Tagging	45 million
Level 3 hospitals rollouts	Healthcare	Hospital inpatient tagging	20 million per year
Major Sea Ports Rollouts	Land and Sea Logistics, Postal	Container Tracking	tens of millions
Chinese Army	Military	Logistics	tens of millions
Alcohol	Retail Consumer Goods	Anti-counterfeiting alcohol	tens of millions
Level 3 hospitals rollouts	Healthcare	New born baby tagging	over 10 million
Major motorbike manufacturers	Manufacturing	Production line management	over 10 million
Nationwide roll-outs	Financial Security Safety	Campus Cards	6 million per year
Major Car Manufacturers	Manufacturing	Production line management	millions
Nationwide roll-outs	Passenger Transport, Automotive	Highway tolling	millions
Container Manufacturers	Manufacturing	Container yard management	over 2 million

RFID in Medical Sector - RFID revenue from deployments in the healthcare industry is

set to skyrocket over the next 5-years, according to a new study from Kalorama Information (Rockville, MD). The healthcare organizations spent $297 million in 2007 on RFID technology; revenue will jump to $1 billion by 2010 and then triple to $3.1 billion by 2012. RFID has the capability of transforming the way healthcare services are delivered and the need for enhanced efficiency and cost-effectiveness is the main factor fueling the adoption of RFID healthcare industry. Mobile asset tracking, better inventory management, real-time monitoring of patients, and medical tracking and dispensing systems are all advantages RFID provides. RFID implementation among hospitals, pharmaceutical manufacturers, and other members of the industry is still in its infancy stages, but analysts anticipate deployments to rapidly increase as cost, interoperability, and infrastructure scalability issues are resolved over the next several years. Source: M2M.

IBM Expands RFID Initiative - RFID is a top priority for IBM. IBM formed its RFID

emerging-business unit with the goal of coordinating the company's resources to best tap into the emerging market in 2003. Today, the company says its RFID business has grown significantly. Last year, they had around 400 IBM staff involved and now it's over 1,200 people. IBM expects to spend $250 million to develop RFID products, laboratories and customer projects during the next 5-years. IBM uses the RFID emerging-business unit structure to incubate its RFID operations within its services organization and deliver related support to its separate industry-specific operations within the company. The growth in IBM's RFID business has been the direct result of booming demand. In the past year, IBM says, the number of RFID projects it is working on has grown by as much as 10 times, and growth is set to continue. Each RFID engagement we are involved in is larger than the one before. Most companies hadn't even budgeted for RFID in this calendar year. IBM has a long history with RFID. For more than 10 years, the company has worked on specialized RFID projects and even developed RFID patents for how tags and readers communicate. However, the company sold its RFID operations and patents to Intermec Technologies 7 years ago [who is suing other RFID companies with the patents]. Even without readers and tags, IBM can still be a one-stop shop for any RFID project, from business case to full deployment. They are not part of tagging and reading the item, but they have products from edge servers through the entire value chain and through enterprise applications. IBM is well positioned to provide the key tools to enable RFID data to be integrated with existing enterprise applications. IBM has already tested its RFID middleware offerings at one of its own RFID deployments. A new automation process at its Fishkill, N.Y., semiconductor facility uses IBM's own SiView Standard manufacturing execution system integrated with its IBM DB2 Database and IBM WebSphere MQ messaging platform and IBM WebSphere Application Server in conjunction with passive RFID tags attached to carriers of 300-mm semiconductor wafers. IBM has 25 partner companies actively working on readers and tags and has strong relationships with Philips Semiconductor, tag providers, including Alien Technology, Intermec and Avery Dennison.

IBM can already claim notable success in RFID, having worked on some of the largest and highest-profile RFID deployments in the world. The U.S. Department of Defense awarded a 3-year contract to IBM Business Consulting Services to help manage and support the DOD's planned deployment of RFID technology in 2005. IBM was also selected as a key technology provider to German retail giant Metro Group's planned RFID rollout. IBM says that RFID is absolutely a key and strategic play. IBM says that while it will build out RFID deployments on a common platform across its industry-focused business divisions, it is the role of the company's RFID team leaders in each vertical to understand and develop an RFID offering and value proposition for their industry. To support IBM's RFID efforts, the company has also launched three RFID research labs where customers attend RFID education programs or test their products with a range of RFID tags and readers; Gaithersburg, MD, Kanagawa, Japan and La Gaude, France. Here's the price list: Phase 1: consulting and development of the business case for RFID deployment; average of $200,000 for the service; Phase 2: a 12-week pilot - around $500,000. The final phase is the full rollout of the RFID system. Pricing at this stage depends on the size and scale of the deployment. Source: RFID Journal.

Alien Earns Protection Under SAFETY Act - RFID provider Alien Technology announced that their products related to baggage and cargo tracking have been granted protection under the SAFETY Act in the event of an act of terrorism. The company has deployed such products at airports around the world. The SAFETY Act was passed by the US government after 9-11 out of concern that companies would avoid developing important homeland security technologies and solutions for fear of liability in the event of a terror attack at locations where their products were deployed. The SAFETY Act offers qualifying companies protection from excessive liability in such cases, thereby removing the disincentive for companies to develop much-needed anti-terror- and homeland security-related solutions. Alien offers baggage and cargo tracking through its wholly-owned subsidiary Quatrotec, acquired last May. Quatrotec focuses on safety and security solutions related to the transportation market, and in fact Alien bought the company for the express purpose of gaining a foothold in that market. Alien is bullish on near-term opportunities in transportation and believes it offers a comprehensive, SAFETY Act-protected portfolio that includes everything from RFID baggage track-and-trace to bomb detection. The bill signed just last week, requires screening of all cargo on passenger planes within 3-years and screening of all US-bound shipping cargo within 5-years. They expect to see significant acceleration in the transportation segment, especially airports, in the next six to nine months. Source: RFID Update.

SOFTWARE

The RFID Software Market and Microsoft RFID - IBM has been leading the way in "fabless" RFID by offering consulting, services and software; that's where the real money

is, in my opinion. So it's no surprise that Microsoft is increasing its efforts in the RFID zone. Microsoft is stepping up its activities in the RFID market, and that signals a movement in the marketplace. Over the next year, we will see a lot of companies developing applications that provide cost-effective solutions to business problems. Many of these apps will deliver value quickly, because they will be geared toward a particular industry pain point or address inefficiencies that cross many industries. For instance, some applications will focus on tracking and maintaining assets. But, there is already a good deal of RFID software on the market, and much of the early development has been around middleware. IBM, Oracle and SAP, as well as smaller companies such as Avicon, GlobeRanger and Shipcom Wireless, have developed software critical to filtering and managing RFID data. Others, including OAT Systems, T3Ci, TR3 Solutions and TrueDemand, were among the first to develop applications that could analyze RFID data and turn it into actionable information. Microsoft, which is playing in the middleware space with its BizTalk R2, is working with partners to deliver applications designed to address specific business problems. Its approach is to provide a foundational layer upon which partners can build applications. Some partners might be focused on retail software and develop applications to reduce out-of-stocks, for instance, while others might be strong in manufacturing and develop systems for tracking work-in-process. Some see the MS boost as the next stage in RFID's development since software companies can now develop apps based on data-sharing and networking standards recently completed by EPCglobal. These data-sharing standards enable firms to share EPC data in the same format, which means anyone deploying EPC systems can use software based on those formats. And the EPC Information Service (EPCIS) standard, published in April, allows companies to share the data over the Internet securely and cost-effectively, so applications can interact automatically, machine to machine. Source: of RFID Journal

APPLICATIONS

RFID in Pharma - IBM is launching an electronic pedigree system that tracks medications through the supply chain until they reach consumers. The system employs RFID tags that are already used to track packages of drugs, especially ones popular with

counterfeiters. Pfizer, for example, uses RFID chips to track packs of its erectile dysfunction drug Viagra, and Purdue Pharma LP has been using them since 2004 to track its pain reliever OxyContin. IBM's ePedigree system helps drug companies create electronic certificates of authenticity for medications, down to the individual bottle, as they move from manufacturers and distributors to pharmacies and hospitals. There's no guarantee that RFID tags will get rid of all counterfeits, but this make it substantially more difficult. Drug companies' prior attempts at fighting fakes, LIKE holograms, watermarks and the like, were often reproduced within months, to the point where even their brand managers could not tell the difference between the counterfeit and the real thing. IBM,

which first worked with RFID more than 10 years ago, said its ePedigree system will help companies comply with a slew of new regulations, such as ones going into effect in California in 2009. California's ePedigree law will require that any medication distributed in the state have its life history attached, starting at the drug manufacturer until it ends up in the pharmacy. IBM's ePedigree system focuses on how that information is distributed along the supply chain, not hardware. The ePedigree system is useful battling fakes, and keeping track of expiration dates, batch numbers in case a drug is recalled, and so on. Source: AP Business.

RFID Enables Water - Northern Apex (RFID supplier) and S2C Global Systems have come up with an RFID system for the Aquaduct water jug dispensing and return machine. RFID capabilities were a necessary feature of the Aquaduct, which S2C hopes to roll out by the thousands around North America. Each Aquaduct houses dozens of standard five-gallon water jugs; very large and meant to be installed outside in the parking lots of convenience stores and supermarkets. Aquaduct's automation enables consumers to purchase new, full jugs and return empty ones all on their own, without the aid of an attendant. Each Aquaduct has two openings, one at the top and one at the bottom. When the consumer purchases a new jug, it is released through the bottom opening. The consumer retrieves the jug and puts it in his car. When the consumer returns an empty jug, he places it in the Aquaduct's top opening, where there is a molding that requires a particular positioning for the jug to fit. This is where RFID comes into play. The moldings are equipped with RFID reader antennas, and each jug carries a tag on the flat bottom end. When the consumer places the empty jug within the molding, the antenna reads the tag, and the system registers that the consumer has returned the jug. This return processing allows the consumer to receive his deposit back or have it rolled forward to the next jug. Each Aquaduct is equipped with a credit card payment panel, which the consumer uses to purchase a jug. When the jug is dispensed out of the bottom opening, its tag is read, and the jug identification information is associated with that particular consumer. This is how the Aquaduct knows when a consumer has returned his particular empty jug. The RFID tags placed on the bottom of each jug had to be highly durable. Jugs undergo a harsh cleaning process that includes a very high temperature sterilization process. In the course of its lifecycle, a jug might be washed 50 to 75 times. Furthermore, the tags had to endure unpredictable wear and tear, as jugs pass from consumer to consumer, many of whom are not likely to treat them delicately. Northern Apex decided on encapsulated tags from TAGSYS which were originally designed for the laundry industry. S2C Global Systems has a handful of Aquaducts installed in pilot mode, with a few dozen more ready for deployment. Additional Aquaducts are being produced every day, and the company is in talks with retail chains around North America in the hopes of signing on customers. Source: RFID Update.

RFID and Chemical Industry - The Chemical Industry Data Exchange (CIDX), a not-for-profit global trade and standards organization, issued a call to action in the form of new paper entitled "Chem eStandards Initiative - Radio Frequency ID,". They make the point that RFID technologies can help chemical companies improve visibility into their supply chains and distribution channels. CIDX members have built a value model that assesses RFID opportunities to help chemical company CIOs and CFOs evaluate the RFID investment. The Business Value Model format will determine ROI based on common chemical business scenarios. The group will also work with EPC Global, an RFID industry trade group, to focus on industry standards. As RFID has not yet been adopted by the majority of chemical companies, the group will take upon itself the role of providing input on implementation as well as being a facilitator for exchanging information that will "affect ongoing RFID standards and development." Source: RFID Journal.

India Votes for e-Passports - The Indian government decided to introduce electronic passports (e-passports), also known as biometric passports. Initial e-passports will go to diplomats and officials. About 25,000 to 30,000 e-passports will be issued to this group beginning in October. Based on the experience gained from this pilot project they will start the process of issuing e-passports to Indian citizens by October 2008. Indian e-passport would look like an ordinary passport with an embedded electronic chip. The chip would contain the photograph, fingerprint and personal information of the holder so that the passport could not be duplicated. An e-passport is machine-readable, enabling quick processing at airports. The passport comes with a built-in security (biometric) feature, which comprises an integrated circuit (IC) embedded in the back cover that stores the data, including photo. These also make the passport tamper-proof. In ordinary passports, this data is typically displayed on the photo page. Already, 35 countries have shifted to the e-passport system, and more countries are queuing up. The biometric passport is an offshoot of the 9/11/01 attacks in the United States and is reckoned as a foolproof method to check passport cheats in their tracks. With almost 500 million passports in circulation and the cost of a single e-passport ranging between $8 and $15, it has opened up a huge market for information technology (IT) firms. Around 85 percent of the developed countries adopting the electronic format are using NXP chips and identification systems, according to the company. India has 40-million passports and about 10-million are being added every year. Source: Automation World.

Hospital Manages Thousands of Patient Files with RFID - Capital Health System, an acute-care and teaching hospital located in Trenton, New Jersey, announced its implementation of a patient record management solution from Infolinx Systems Solutions based on Gen2 RFID tags and readers from hardware manufacturer Intermec. Capital Health System sought both increased efficiency and compliance with the Health Insurance Portability and Accountability Act (HIPAA),

which placed heightened importance on patient information management when it was passed in 1996. The hospital targeted its Sleep Centers, which provide comprehensive evaluation and treatment for patients experiencing sleep-related problems. The Centers manage 5,000 patient files. Each file is tagged with a Gen2 RFID tag from Intermec, allowing it to be tracked from the moment it is created for a new patient all the way, until the file is retained in storage. Intermec IF4 fixed readers are positioned in key locations around the center to enable automatic tracking and encoding of the tags as they are moved from one place to another. Reads and writes to the tags are dynamically updated in the central database, ensuring real-time, accurate location data. The centers also have a series of handheld readers for routine inventory and locating misplaced files. The Intermec/Infolinx RFID system completely automates the file tracking process, so the staff spends much less time managing files. There's been a significant decrease in misplaced files. RFID document and file tracking has seen gradual adoption over the years, but it remains far from widespread. Technological challenges have been one hurdle, including poor read performance that results from tags being sandwiched closely together when tagged files are stacked. 3M is probably the most recognized RFID file tracking solutions provider. The company offers a packaged file tracking solution and has released a steady stream of announcements of new deployments. Source: RFID Update.

RFID for Textile Tracking - Italian textile maker Griva said achieved a 30% return on investment on the RFID system it installed about 10 months ago, which replaced its existing bar-code system to track its automated fabric-making processes. The project is the first fabric rolling tracking application that is compliant with the global EPC standards, said Alien Technology, which supplied the RFID tags and readers to Griva. The ROI came in the form of time management savings and increased traceability of the fabric rolls, said Griva, which is based in Torino. Until recently, they couldn't accurately control the contents of the roll using bar code technology. By implementing an EPC-compliant fabric roll RFID tracking, they reduced expenses, saved time and improved customer satisfaction with our finished products. Griva produces more than 300,000 rolls of fabric every year, and sells finished fabric for upholstery and drapery to leading European retailers such as Leroy Merline and Quelle. The company said all the problems it faced in guaranteeing traceability during the phases of production and logistics had been solved by its RFID implementation. Most of those problems were the result of the textile manufacturing process itself: high temperatures at the stations where the fabric is shrink wrapped; water and high humidity levels; and the harsh chemicals used during the dying phase. For example, the RFID tags passed the plastic film test that previous tracking methods hadn't been able to because the film used on the fabric roles hid the bar code. RFID, however, made it possible to track fabric pieces that were already packaged and ready for delivery, Griva said. This saved time and gave customers more accurate information. Griva used the Alien 8800 UHF passive reader and writer, as well as EPC-compliant Gen 2 Squiggle tags. Third-party services provider Simet supplied the reader-to-ERP interface middleware, which dovetailed into Griva's enterprise resource planning software. As a result, Griva can now trace the fabric roll at

the onset of the production process right until shipment. The company's main centre covers a surface area of 5,000 m^2 plus a completely automated warehouse of 1.000 m^2. Source: Yahoo News.

RFID for Pan American Games - Intermec provided RFID technology to this year's Pan American Games, a multi-sport event held every four years between competitors from all nations in the Americas. The technology was purchased by the Brazilian government to provide maximum security and optimal access control for event attendees and venue workers, as well as the 5,662 athletes that competed at the Rio de Janeiro-based event. All event competitors, workers and attendees were required to wear a badge with a bar code and an RFID tag containing identifying information such as name, country of origin and a venue access matrix. Twenty-one on-site security offices operated throughout the games to monitor the information, ensuring safety by providing efficient access control during all events. The Pan American Games is the first Latin American event to employ RFID technology for access control. The RFID solution selected by the Brazilian government includes Intermec IF5 RFID fixed readers, IP4 portable RFID readers, 751 mobile computers and RFID tags, as well as Cisco AP 1231 access points. The hardware was integrated with the Atos Origin Games Management System. Source: BUSINESS WIRE

RFID in the Mine - Chinese miners may soon carry a card with an RFID chip to save their lives in a mining disaster making them easy to be found if they are trapped underground. The system is in trial in Shanxi, Liaoning and Guizhou provinces and Inner Mongolia Autonomous Region, Zhang added. The radio technology has been used in tracking dangerous chemicals, and in the sectors of food safety, retail, health and logistics in China. Meanwhile, the system is expected to be adopted for tickets to the Beijing Olympics and Shanghai's World Expo in 2010. RFID is now used more widely, and the government has financed the technology's development with $5.26-million from its annual electronic budget. Source: CE Net.

PROJECTS

RFID Initiative for Manufacturers - An EU-funded project to develop radio frequency identification (RFID) will launch pilot studies with manufacturers this year. The EU is providing €7.5m toward the three-year project to develop and extend the use of RFID technology in a range of industries, including the food and drink sector. The Building Radio Frequency IDentification solutions for the Global Environment (Bridge) project will develop research, training and demonstration models in the effective use of RFID based on EPCglobal standards. In food manufacturing processes, the project hopes to demonstrate how to reduce waste and stock holding. The project will improve the visibility and traceability of both products and equipment, thereby improving food safety. Bridge consortium members include five research laboratories, 12 RFID suppliers and

seven businesses. They are Carrefour, Nestlé UK, Benedicta, Kaufhof, Sony, El Corte Inglés and Gardeur. The project has the objective to research, develop and implement tools to enable the deployment of RFID and EPCglobal applications in Europe. Participants in the program include universities in Europe and China, three of the Auto-ID Labs, providers, both large and small, together with large-scale retailers and manufacturers. EPCglobal is a fledgling standards setting agency developing RFID technology that will be compatible around the world. The aim is to construct a global supply chain information network that combines RFID technology, existing communications network infrastructure and EPC, a number for uniquely identifying an item. Generation 2 refers to an updated version of the standard, which makes tracking and tracing systems compatible throughout the world. Source: Food Europe magazine.

RFID and Cargo Seals - Six companies will incorporate a new international standard for shipping seals that use RFID to warn when a cargo's contents have been breached. Savi Technology (Lockheed Martin) said the companies will incorporate the ISO 18185 s for electronic cargo seals, also known as "e-Seals". The standards allow RFID devices to interact with readers even though these may be made by different manufacturers. RFID technology is helping to transform logistics by providing a means of tracking and tracing individual products 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. Electronic seals have built-in security and tracking features that allow processors and others to keep track of in-transit cargo containers, which account for 90 percent of world trade. E-Seals combine mechanical locks with wireless RFID communication systems to automatically notify users about security breaches and container locations according to Savi. An estimated 200-million containers flow through the world's ports each year. The US Safe Port Act of 2006 requires calls for the U.S. Department of Homeland Security to define the voluntary use of container security devices in accordance with international standards. The use of RFID technology along the food supply chain is set to rise dramatically to $5.8-billion in 2017, according to a previously published report by IDTechEx. RFID uses a wireless system that helps enterprises track products, parts, expensive items and temperature-and time-sensitive goods. Each RFID tag carries information on it such as a serial number, model number, color, place of assembly or other types of data. Source: European Food magazine.

POLETICS

RFID-Phobia Continues - California State Senator Joe Simitian (D-Palo Alto) seems to have only one job, thwarting RIFID. He's been at it for years, but the governor has countered his bills with vetoes. He attempted to prevent the use of RFID in library books, "until it could be studied for 3 more years". Now Joe introduced a bill that would "prohibit any person from forcing any other person to undergo an implant in their body of a radio frequency identification device." His fellow pols backed the ostentatiously feel-good measure and the state Senate dutifully passed the bill on a 28-9 vote today. Simitian, who chairs the state Senate's Committee on

Privacy, sees himself as "the defender against those who would doom us to an Orwellian future". The bill now goes to the Governor. Since no one seems to be in favor of forced RFID implants, this is one more paper-wasting, look-what-I-did-for-you piece of crapola. Source: CNET.

MANUFACTURING

RFID Antenna Manufacturing - The Finnish startup Intune Circuits says it is currently making 5-million tag antennas a month and that its annual production capacity will reach 1.3 billion antennas by the middle of 2008. They bought the RFID tag antenna manufacturing business from UPM Rafsec. Intune was formed jointly by UPM Kymmene, UPM Rafsec's parent company and one of the world's largest manufacturers of newsprint and magazine paper; Outokumpu Technology, a Finnish maker of stainless steel coils, wires, rods and bars; and Finnish Industry Investment Ltd., a government-owned venture capital company administered by the Finnish Ministry of Trade and Industry. Itune will specialize in manufacturing antennas for HF and UHF tags, both passive and active, using solid copper or aluminum or metallic inks. Its customers will decide which design and materials will be used. In November, Intune acquired Rafsec's antenna manufacturing equipment, which is now producing antennas for Rafsec, its only customer. Intune is currently producing etched copper antennas, but after the company opens its own plant, it expects the bulk of its HF and UHF antenna production to be etched aluminum. Intune says its own production plant, currently being built in Vantaa, will be completed in early 2008; within two months of that date, the company will use it to produce etched aluminum antennas. By April, it aims to move its etched-copper production line from Jyväskylä to Vantaa. Intune seeks to sell its products to inlay manufacturers around the world, but they don't expect volume sales growth until after the summer of 2008. Drawing on the metal production skills of Outokumpu Technology, Intune is hoping to cut its antenna production costs by developing a process to reuse material removed during the etching process. Up to 70 percent of the antenna material is wasted, and they are hoping to find a resale use for that material. *[Hold it - the PCB industry has been either selling, or recycling Cu waste for decades, so what's unique here?] Source: RFID Journal*