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Smart Card News

Smart Cards, SIM, Biometrics and RFID

www.smartcardgroup.com

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www.rafsec.com

UPM Rafsec

Rafsec specialises in the production and development of RFID (Radio Frequency Identification) tags used for contactless Smart Cards and labels. Their website uses pastel colours, which personally I am a fan of, and uses a left hand side navigations bar. Information on the site is kept to a minimal but still gets the relevant information across relating to themselves and their product. Predominantly text based the website features very little visuals apart from its graphical information headers for each page and a few graphs. The website navigational bar is very easy to use with its additional drop down bars. As a publication we appreciate detailed press sections and Rafsecs is just the type we like - full of press releases, articles and access to pictures. Overall the site is plain in a very efficient way and has all the relevant resources for information and potential clients laid out with easy accessibility.

Navigation
Content
Appearance

www.philips.com

Royal Philips Electronics Ltd

Royal Philips Electronics are makers of Smart Card chip technology and one of the world's biggest electronics company's, so it is no surprise that their site covers a vast range of products. From the easy to use two level split navigational bar at the top of the screen, you can access their professional product list and go straight to semi conductors. Once into the different section of the wesite, Philips employ another left hand side navigational bar to access specific information you are looking in, making it very easy to access information. From the site you can access datasheets, articles and information on all their Smart Card and RFID related products. Overall the site is easy to navigate and even though it is mainly text based, the website has a very nice design.

Navigation
Content
Appearance

www.spartanics.com

Spartanics

This month Spartanics released their new website. The website features a new comprehensive guide of precision Technology for Smart Card automated manufacturing. This new expansion of their website aims to help manufacturers gain a better understanding of the niche market for high precision finishing equipment and to provide a basis for better informed purchasing decisions. The website uses a simple but not very creative two-way navigational bar that is standard throughout the site. The website's content is very informative in relation to their products providing photographs and product feature and benefits. Overall I found the website to be lifeless and dull and to find information involved a lot of scrolling down the page. As they have gone to the effort of expanding this site I feel they should have also breathed a little more design and visual stimulation into it while they where at it.

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Netherlands Receives Worlds First Full Contactless Transport System

Smart Card manufacturers ASK and Axalto have been selected to supply the contactless cards and tickets for the Dutch public transports system. The Netherlands will be one of the first countries in the world to have a full contactless system on their whole public transportation network. Conducted by Trans Link Systems (TLS), the Dutch transit authority, and the East West consortium (Thales, Accenture and Vialis Verkheer & Mobiliteit), the e-ticketing program is the first in the world to be implemented on a national scale and will offer an integrated solution covering all means of public transport.

Under the supervision of TLS the project involves a consortium of the 5 largest transit operators in the Netherlands and should be starting in Rotterdam in 2004. The program involves 1.4 million contactless cards in its pilot phase, out of the total 12 million cards to be deployed by 2006. Led by an industrial consortium, the project is to provide the whole population with a fully contactless, integrated fare system that can be used by the different national transport operators. One single contactless card (the Easyflow card by Axalto) will allow the citizen to equally access ferries, buses, metros, trams or trains to travel across the country. More than two million passengers per day are expected to use national transport once the project is fully implemented.

ASK employ's a Philips Mifare 4K chip which replaces the current season cards where as CTS512A ASK contactless paper tickets will be used for occasional users. Travellers will be able to use a single card or ticket to travel around the country whatever the transport type and benefit at the same time from all the advantages of contactless technology that combine security, ergonomics and high speed, states Emeric d'Argoeuves, Project Manager at ASK.

Cards may be easily reloadable in vending machines or at current points of sales with several means of payment. There is no need to run to the post office or rummage in your pockets or wallet to look for change before hopping on the bus anymore states Xavier Bon, Vice President Sales & Marketing at ASK. Consumers can also potentially use the cards to make contactless purchases at local stores but this concept is not likely to be implemented for a while.

" Not only is this program a highly modern, user-friendly and truly interoperable scheme, but this is also the first that goes beyond the typical city-centric fare system implementations. As such, we suspect it will be closely watched across the globe" comments Chris Jenkins, East-West Managing Director.

"This program is a first worldwide and will be a landmark in the transport business." states Frédéric Trojani, Public Sector and Transport Market Segment Director at Axalto

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Telephone : + 44 (0) 1903 691 779 • Fax : + 44 (0) 1903 692 616 • General Enquiries : info@smartcard.co.uk • ISSN 0967 196X

Managing Director Patsy Everett ~ patsy.everett@smartcard.co.uk • **Production and News Editor** Jason Smith ~ jason.smith@smartcard.co.uk
Technical Advisor Dr David B Everett ~ david.everett@smartcard.co.uk • **Sales Administrator** Maxine Laker ~ maxine.laker@smartcard.co.uk

This Issue's Guest Contributors: Peter Tomlinson • John C. Williams • Prof Dr Kriengsak Chareonwongsak • Jan Kruger • Wise Media S.p.A.

Russian Agent : Alex Grizov Recon Company "Sport Hotel" 5th Floor Leninsky Prosp., 90/2 Moscow 117415 Russia

Editorial Consultants Dr Kenneth Ayer • Peter Hawkes • Simon Reed • Robin Townend

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NASA Selects MIFARE DESFire

The National Aeronautics and Space Administration (NASA) has selected Royal Philips Electronics's MIFARE DESFire contactless chip technology to enable secure Smart Card access to its facilities. Compliant with the United States government's Government Smart Card Interoperability Specification (GSC-IS) standard, Philips' chip technology is being incorporated into Smart Cards deployed to agency employees and contractors for immediate identity authentication. Other government agencies, such as the U.S. Department of Interior, are also implementing physical access systems compliant with the GSC-IS interoperability specification. Philips' MIFARE DESFire V0.6 is the first chip solution currently compliant with this specification.

In partnership with Smart Card system integrator MAXIMUS, NASA is the latest federal agency to move from low-frequency (125Khz) to industry-standard ISO 14443 technology for increased interoperability based on GSC-IS. A field trial is planned at the Marshall Space Flight Center in Alabama this summer, with potential expansion to 2,000 employees. If the trial is successful and approval is secured from the Office of Management and Budget, NASA plans to deploy more than 100,000 Smart Cards before the end of the 2005 fiscal year. This number includes cards for contractors and government employees.

ID-One Gets First FIPS Certication

Oberthur Card Systems ID-One 64K dual interface contact and contactless (ISO 14443) Smart Card is the first of its type to receive the U.S. government's FIPS 140-2 Level 3 certification, positioning it for use in the next phase of the Department of Defense's (DoD) Common Access Card (CAC) program. The certification, which is awarded by the National Institute of Standards and Technology (NIST), also allows Oberthur Card Systems to compete globally for e-passport contracts.

ORGA Awarded Type Approval

The German Federal Office for Motor Traffic in Flensburg has awarded ORGA Kartensysteme GmbH type approval for its four types of tachograph card on July 1st, 2004. This makes ORGA the world's first Smart Card manufacture producer to pass the extensive approval procedure successfully.

The solution is based on a Java operating system developed by ORGA. The functional certificate confirms the physical features of the card, a security certificate proves that it complies with the required EU security regulations, and the interoperability certificate is evidence that the Smart Cards work in digital tachographs from various vendors.

SSP-Litronic Release jForté

SSP Solutions, Inc has introduced jForté, its newest high assurance Smart Card. The jForté Smart Card, based on Java Card technology, provides a high assurance foundation for identity and access management, privacy and secure communication needs and applications. Besides enhancing traditional Smart Card based ID solutions with strong authentication, application and network access, and badging, the jForté card can also be used to support biometric and contactless (ISO/IEC 14443) applications for which high assurance is required.

OneSMART Club For Europe

MasterCard International this month have launched its OneSMART Club programme in Europe - an initiative bringing together MasterCard customers and industry suppliers across a number of markets to foster and support the deployment of added value chip-based business solutions. Introduced globally by MasterCard earlier this year, this month's launch of Europe's first OneSMART Club covering Central and Eastern Europe (CEE) was celebrated with an inaugural meeting in Prague. Financial institutions from six countries - Croatia, Czech Republic, Hungary, Poland, Slovakia and Slovenia - have already indicated their support of the OneSMART Club, as have a number of chip technology vendors. Each OneSMART Club is designed to help MasterCard's customers leverage the fast growing EMV chip infrastructure through the deployment of added-value chip business propositions

Smart Travel for Australians

A Smart Card travel scheme is to be introduced in Victoria, Australia by 2007 and tenders are being invited according to Peter Batchelor, Transport Minister. The scheme should eliminate the current $50 million a year loss in fare revenue due to the evasion of fare paying.

The Smart Card will store monitory value and be scanned as commuters get on and off public transport. The system will also automatically calculate the cheapest fare and allow the commuter to change their mind about their destination. There will also be disposable Smart Cards for tourists.

Gemplus Wins New EMV Customers

Gemplus International S.A. has won nine new customers in the emerging smart banking markets in Asia Pacific, South America, and Europe. The new customers Gemplus has recently won are: Sociedade Interbancária de Serviços (SIBS), Portugal, Maybank, Malaysia HSBC, Malaysia, AK Bank, Turkey, Komercni Banka, Czech Republic , Standard Chartered Bank, Malaysia, Russian Standard Bank, Russia, Vilniaus Bankas, Lithuania and Santander Santiago, Chile

Chips for Hong Kong ID Cards

Keycorp Limited has signed a contract to supply 4.7 million Smart Card chips for the Hong Kong Government, which began issuing citizens with new ID cards in August 2003 based on Keycorp's technology platform.

Keycorp has already supplied over 2 million chips for the Smart Identity Card System (SMARTICS). The cards are being provided to the Hong Kong Government via a consortium led by Unihub Limited. The new cards, based on a MULTOS platform, are being issued to replace the existing laminated plastic photo ID cards.

Smartest City

Southampton is set to become one of the UK's smartest cities - thanks to technology being implemented by Wayfarer Transit Systems. The company is working with the City Council and public transport operators to deliver an interoperable Smart Card system that will embrace both concessionary and commercial Smart Cards.

The Smart Cities project will involve upgrading all the operators in the region (First, Solent Blue Line and Uni-Link) with Wayfarer's Smart TGX 150 ticketing machines.

ORGA Claim's a First

ORGA is the world's first card manufacturer to offer a (U)SIM card with a 256-kilobyte EEPROM in its product portfolio. SIM cards currently have an EEPROM ranging from 32 to 128 kilobytes. The new "USIMtelligence 256" enables mobile operators to store far more revenue-boosting services on the (U)SIM card.

Improved Access at Berlin's Airports

Berlin's three city based airports, Schonefeld, Tegel, and Tempelhof, have installed a personal identification and time management solution using the latest LEGIC contactless Smart Card technology. The three airports were all switched to the new system simultaneously to ensure maximum efficiency and minimum snagging whilst the new system became operational.

QI Expans USA Today Program

QI Systems Inc., has announce several new deployments of its durable low power hybrid card reader and news box controller system used in the USA Today Collegiate Readership Program. With shipments for 12 campuses during July and August, the QI controller systems will now be installed in the USA Today program at more than fifty campuses across the country.

New Team for eCabinet Project

SmartCentric Technologies International (SmartCentric) has announced that it is currently working with the Department of the Taoiseach (Irish Prime Minister's office) and others, including Fujitsu Services and Invision, on Phase 2 of the eCabinet project, which will take the system to the Cabinet itself. Specifically, SmartCentric will deliver their SmartCity Biometric Authentication Solution to provide the highest level of secure access to confidential documentation.

For more information visit ...

Royal Philips Electronic's
www.philips.com

SSP-Litronic
www.litronic.com

SmartCentric Technologies
www.smartcentric.com

DoD Extends Contract with Xacta

The U.S. Department of Defence (DoD) is extending its relationship with Xacta Corporation as its prime contractor for continental United States (CONUS) installations, worldwide maintenance, and support of the production of secure identification cards as part of the Defence Manpower Data Center (DMDC) Common Access Card program. The five-year contract is dated for completion in August 2008.

JCB and AEON Develop QUICPay

JCB, AEON Credit Service have jointly announced they have developed the QUICPay payment solution for cards with contactless IC chips. The QUICPay service is also compatible with NTT DoCoMo's Smart Card handsets, which are capable of using i-mode FeliCa mobile wallet service. A trial project for the new QUICPay solution will begin this autumn. QUICPay ("Quick and Useful IC Payment") offers offline payment service.

e-Passport for Canada

The Canadian Federal Passport Office will begin plans to issue new biometric passports next year. In the first half of 2005 the e-Passport will be issued on a trial basis to Canadian diplomats. The e-Passport will contain the usual information such as the holder's photograph and personal information on the current passport, including name and date of birth. The e-Passport will also incorporate a digitised photo, and will use biometrics as an identifier such as image, iris scan or fingerprints.

Ingenico gets Japanese EMV Approval

Ingenico have achieved two major milestones in the Japanese market. Ingenico has been granted the EMV local approval by GP Network Corporation (GP Net) and Sumitomo Mitsui Credit Card Co, one of GP Net's key potential customers, has expressed willingness to deploy the Ingenico Elite 730 terminal on the Japanese market.

Given the installed base of over 1 million EFT POS and over 2 million cash registers with embedded card reading facilities, this is a major step forward the world's second market.

First 128 USIM Cards in the UK

Axalto has commenced volume deliveries of its Usimera 128 Java SIM/USIM card to 3 UK -the UK's first video mobile network- to provide the best platform for new value-added services. Axalto commenced delivery of the cards to 3 in July.

This new generation of USIM card means 3's customers can store up to double the amount of information as compared to existing SIM/USIM cards in the market. According to David Cooper, Chief Technical Officer, 3 are the first network operator to adopt the 128k USIM

Thales Offer EMV Solution

Thales has introduced an end-to-end EMV solution through the integration of its P3 Smart Card preparation and personalisation process and Verisoft's PowerEMV, a network oriented EMV platform Smart Card personalisation system.

This integration will provide card issuers with an off-the-shelf solution that is Smart Card platform independent, eliminating the need for card printer replacement during a bank's EMV migration. The first customer to use this solution is BAMCARD, the card processing and switching center for 20 banks in Bosnia Herzegovina.

SNC Awards $6.7 Million Bio Contract

Secured Digital Applications, Inc have been awarded a $6.7 million contract by SNC Associates to develop face and fingerprint authentication for credit card payments to be implemented in four countries in Asia.

The contract is for the development and operation of a Biometrics (Face and Fingerprint) Authentication Center ("BAC") for credit card payments in Thailand, Brunei, Indonesia and Hong Kong.

New Smart Card Testing Centre

Wayfarer Transit Systems has formally opened a customer training and test facility in Poole, UK. The area can be configured to meet the exact requirements of customers, mirroring all the technology that goes together to create the increasing levels of integration demanded by public transport operators.

The facility includes every element of Wayfarer technology - from Smart Card personalisation and encoding to Radio LAN; from electronic ticketing machines, such as the TGX150, to sophisticated back-office management information systems and the integration of other suppliers' equipment.

The Black Country Gets Smart

The Black Country is set to become one of the first regions in the UK to create a multi-authority and multi-application scheme with the latest Smart Card technology. The Black Country Smart Card will be piloted in Dudley, Sandwell, Walsall and Wolverhampton as part of e-Government, which will make public sector services available to all citizens by 2005, providing access to a whole range of public services, including libraries, learning and leisure.

Interface IC Approved by NDS

Atmel's AT83C24 low-cost Smart Card interface IC has been approved by NDS for use in their Set Top Box, featuring NDS VideoGuard -- a pre-eminent conditional access software solution for pay-TV. The AT83C24 is a Smart Card reader interface IC for Smart Card reader applications such as Set-Top Box and EFT/POS terminals.

Authentication Market is Growing

The results of a recent global survey, carried out by Aladdin Knowledge Systems, Inc., of more than 350 security and IT managers found a strong trend toward PKI usage, with more than 50% of these global companies having already implemented or planning to implement a PKI. Of these, more than 65 percent are evaluating USB tokens or traditional Smart Cards to enhance their PKI security

SAGEM Teams with SmartGate

Following an international call for tenders released by the Australian Customs Service, SAGEM has been selected to be the strategic partner in the further development of SmartGate. Based on face recognition biometric technology (a Cognitec Systems GmbH software), the SmartGate trial will provide simple and secure processing of selected flight crews and passengers at a number of Australian airports. The system will do this by verifying and matching the traveller's facial biometrics to a stored biometric of that same person.

The systems will be one of the first to use biometric data in passports, enhancing the facilitation of passengers and strengthening border control

V-Smart Selected for Biometric Trials

The Space and Naval Warfare Systems Centre, Charleston, (SPAWAR) will use Bioscrypt's V-Smart iClass biometric access control reader to enhance the security of sensitive information and high-security areas, and to analyze the benefits of implementing biometric contactless technologies for future generations of the Common Access Card (CAC) at Marine Corps Base, Quantico, VA.

OTI Enters US Healthcare Market

On Track Innovations Ltd, (OTI) has signed a Value Added Reseller (VAR) and licensing agreement with J4 Technologies, Inc, to integrate OTI's MediSmart contactless Smart Card based medical card program into J4 offerings to the health care industry in the U.S. This follows the successful implementation of OTI's MediSmart by CareCross Health, a primary healthcare provider in South Africa.

Microsoft and SAFLINK Join Forces

SAFLINK Corporation and Microsoft Corporation, have formed a strategic partnership to deliver highly scalable, highly secure solutions to critical infrastructure Homeland Security programs. Together they provide a solution for Homeland Security programs, which involves biometrics, Smart Cards, tamper-proof identities, and physical security controls.

For more information visit ...

Axalton
www.axalto.com

Secure Digital Applications
www.digitalapps.net

Black Country Smart Card
www.bcsmartcard.co.uk

Aladdin Knowledge Systems
www.ealaddin.com

Wayfarer Transit Systems Ltd
www.wayfarer.co.uk

The American Scene - Part 2

By Peter Tomlinson, Independent Consultant, Iosis Associates

Peter Tomlinson

The first part of this study (June issue) focused on the American military ID card scheme (CAC) and their upcoming civilian public servant ID cards. These provide for strong authentication of the individual and are capable of carrying a large amount of personal information. Indeed the cards can carry a precis of a personnel file as long as the data fits into sets of simple data elements. This month we look at the way in which those projects illustrate the American way of managing a successful IT project using Smart Cards, and at the differences between USA and European requirements.

As before, the material used here has been gathered from several people. USA public sector project teams operate with facts, not aspirations. They apply technical standards and specifications, developing new ones where there are none already available. Not for nothing did one German expert with experience in both Europe and the USA tell me that Europeans tend to develop a model but perhaps fail to see that it doesn't fit the facts, while Americans start simple and build better and quicker. Well, we are beginning in Europe to start simple with common ID card requirements as collected in the e-Europe Smart Cards work, but we are not building our schemes from those basics. Thus the pan-European interoperability of ID cards that we need as citizens to move around Europe is not going to happen.

In meetings held at the time of the May National Smart Card Project and e-Europe conference at Heathrow, Dr Aniyan Varghese of DG Information Society slated us (both public and private sector) for not building common solutions from the building blocks. But of course neither DG Inf Soc nor DG Enterprise have provided the baseline funding for the next stage of the e-Europe work, whereas in the USA their standards body NIST has an expert team, albeit small, dedicated to pushing forward on standards and specifications for their ID cards.

The message from the USA is that the technical standards and specifications that we build must be:

- backwards compatible to preserve any installed base that already exists;
- interoperable - which means unambiguous;
- open and flexible to accommodate new technologies, policies and applications;
- implementable and deployable, which means scalable, low maintenance, cost effective, simple to manage and certifiable for security.

Next, the designs of the schemes must be precisely detailed and documented, multiple suppliers must be engaged at a very early stage, and active communication channels (including automation of data exchange using XML or similar) must be established amongst all the participants. Users - meaning service providers - must be required to detail their requirements, and suppliers must be polled to find out if they can deliver the required components and systems. All the details must be documented in a clear and concise manner.

These are professional engineering principles, and those who understand them can follow the thread for themselves. One of the UK visitors to CardTech SecurTech had participated in extensive liaison with the USA public sector, and as a result set out a detailed list of consequences if the principles outlined above are not followed. The warnings predict chaos, waste of money and a high risk of ultimate scheme failure if clear principles and high quality project management are not used. But at long last I am aware that the UK public sector is listening and acting, starting with its investment in an accreditation process for experts who will assess the quality of public sector ICT schemes, and with more to come.

We in Europe do not agree with the Americans on the data architecture. That is because we have a different requirement. They want to control their military and federal and state employees and associates, and to have them carry a lot of data around with them. We want to encourage citizens to carry a basic identification token, and then we will keep most of their personal data in servers organised according to the requirements of each country and municipality. Of course for a particular function (such as critical medical data) we may store personal data in the card, but responsibility for the security of each dataset rests with the department of state, local authority or private sector service provider that issues that data onto the card.

The USA is going to have one massive security domain for its public servants, but might later have individual security domains for each state's citizens. Europe will have as many security domains as there are countries, and might even have individual security domains for each regional or local authority in countries that do want to have a single national scheme - that is a challenge. Before we get that far (in a manner that is open to extension for pan-European use), we in the UK will need to ensure that we have a cost effective, secure and reliable way for one citizen Smart Card to be used to access the services of multiple service providers.

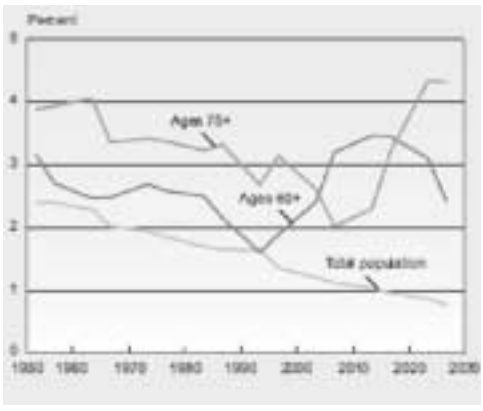
Liberating the Healthcare System

By John C. Williams, Managing Director, The FocalPoint Group

The FocalPoint Group

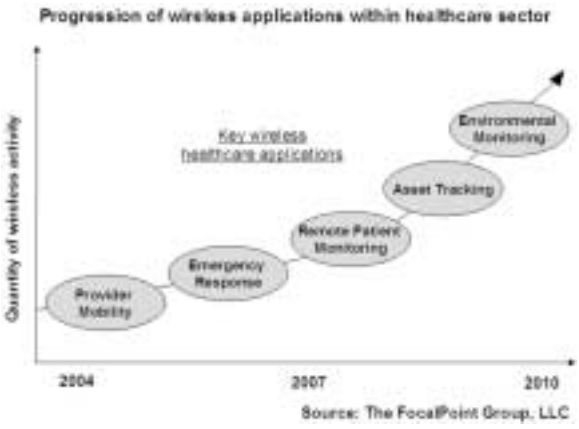
State of Healthcare : No one likes to think of the quality of the healthcare system until they become ill. Yet most governments and corporations around the world are waking up to the fact that an improved healthcare infrastructure must be developed to support their ageing populations and to counteract the threats of new diseases and bioterrorism. While advances in healthcare treatments to fight infant mortality, infectious diseases, and nutrition improvements have led to increasing qualities of life, the unintended consequence is a growing elderly population that lives much longer and in greater proportions. The net result is increasing pressure on the healthcare system that must redefine processes and operations, while taking advantage of the latest technologies.

Already there has been evidence of problems creeping up. In the United States, there are estimates of more than 770,000 deaths occurring from adverse drug effects (ADEs). While some of these deaths are natural occurrences, a fair number of these deaths could have been prevented through closer monitoring and better information systems. Furthermore, problems such as ADEs are likely to continue as worker shortages continue to grow (the Department of Health and Human Services expects a nursing shortage of 800,000 by 2020) and as the chronic nature of diseases causes patients to live with greater amounts of medications and for longer periods of time.



Wireless Communications Technology Improves Service Delivery: But a number of technologies are emerging to make a difference. While many hospitals have gone forth to digitize their systems based on Ethernet networks, a number of wireless technologies are coming about to make a significant impact in the healthcare arena: **(1)** WiFi (also known as 802.11) has gained strong support and rapid adoption among the hospital community in both office and healthcare operations environments. WiFi has been instrumental in enabling doctors and nurses to "walk the halls and bedsides" with the most current, accurate, and complete information about lab tests, medications, patient history, and just about anything else needed to properly treat a patient.

(2)RFID (radio frequency identification) tags are beginning to gain popularity in retail environments and in the military, where asset tracking and provisioning is critical. However, there are many calling for RFID tags to be used to track medication and for better asset management within hospital settings. **(3)**Sensor networks (using 802.15.4, using the ZigBee standard) have enabled care providers to monitor more discrete variables and to be used in emergency and triage conditions, where the sheer quantity of people overwhelms existing equipment availability. These sensor networks are able to measure patient vital signs, detect biological hazards, and automate environmental functions (such as lighting, temperature, and lab processes).



(4) Packet cellular (similar to your standard cell phone coverage) provides long distance monitoring of patients. Doctors can better monitor a patient's heart condition remotely and continuously, even after the patient leaves a care facility. Packet cellular will become increasingly used as patients require more frequent and ongoing monitoring. With the advent of these technologies, security and data privacy must be improved. The Smart Card industry can play an important role in facilitating greater security to both the virtual databases being accessed remotely, but also within physical access control environments, where doctors and professionals will want to limit access to their labs and nuclear materials.

In addition, Smart Cards can be used to store and mobilize patient information as more of the paper records, prescriptions, and notes become digitized. And as these technologies progress, a redefinition in the way in which healthcare services can be provided will occur. Yet, for improvements in the communications infrastructure to take place, the government, insurance companies, medical device companies, and healthcare providers must gain consensus on the need and the way in which healthcare should be administered in this next century.

A Future Vision of Care: These technologies, when used appropriately, can lead to significant improvements in the way health is monitored and treated in this country. A number of capabilities emerge as possible directions for the healthcare industry: **(1)** Proactive, ongoing health care**.** Our medical system is designed to primarily treat illness as they occur. Now that most of nature's diseases and illnesses are curable, the nature of health turns to those diseases that are more environmental and genetic in nature. Heart disease, cancer, obesity, and genetic ailments are conditions that are best fought with ongoing and preventative care.**(2)** Research and diagnostics. With continuous and long-range data gathering that wireless technologies provide, medical researchers will be better able to determine the causes and conditions for good and bad health, and better understand the impact of treatments on various types of people.

(3) Custom treatment. Often doctors must prescribe treatments that work for the general population, but may make sub-segments even more ill or subject to greater side-effects. By better determining the genetic make-up of an individual and monitoring their reactions to medications in a real-time fashion, doctors will be able to make better predictive analysis of various forms of care. No one technology will be able to meet the requirements of the evolving healthcare system. Instead, a multitude of technologies must be able to achieve specific goals and work seamlessly with other modes and forms of data gathering and processing. Yet, hospitals and care providers should not let the challenges of IT implementations impede their progress.

The UK Biometrics Trial

By Patsy Everett, Managing Director, Smart Card News Limited

Patsy Everett

Someone from our organisation had to volunteer to be one of the UK Governments 10,000 volunteers so it fell to me to trot up to London to give it a go. I originally telephoned the UK Passport Office in May to volunteer and three weeks later I received a letter inviting me to phone a helpline number to arrange an appointment. I had four options of where to go, London, Leicester, Newcastle and Glasgow, plus there is a mobile vehicle visiting Peterborough, Sheffield, Middlesborough, Macclesfield, Birmingham, Swansea, Taunton, Torquay and Belfast. Along with the letter was easy to understand information on the volunteer project.

I arrived at Glebe House, Egglestone Road, the home of the UK Passport Office at the appointed time and was immediately invited to go through the usual airport sort of security. There was a room full of applicants for passports/visa's waiting but I was ushered upstairs where the ID Project team was waiting. After confirming who I was by checking my name, address and date of birth it was explained to me a little about the project and how none of the information I gave would be used by another body I was then ushered into a small room where an operative was waiting.

Firstly my facial biometrics were taken and I was asked if I was happy with the picture, at this stage I didn't have my glasses so I was in no position to know if it was my best angle. Apparently my face was being measured, the distance between my eyes, the length of my nose, how big are my ears! I was then asked to look into a lens and an automated voice gave me instructions on where to look and how far back or close I needed to be as my irises were being scanned. I was then asked to place all my fingers and thumbs on a reader.

The computer next to the operative was able to verify whether the prints were good and I was asked to do my forefingers again. These biometrics are apparently checked against a database which was purchased from the Americans. Finally I was asked to make my signature on a signature pad. All this took under 15 minutes before I was handed my ID Smart Card. Apparently a BBC journalist enrolled for the trial under his real name then came back a number of weeks later in disguise with a different name, age and address. He was immediately discovered because his biometrics were already on the database. Before I left I was asked to complete a survey form which asked such questions as did I think the data captured would be stored securely, which biometrics did I prefer, did I think the card would help in the reduction of identity theft or terrorism. Finally my card was placed in a reader and my iris scanned again which confirmed that I was the legitimate holder of the card. It was also pointed out that the Smart Card had no legal use, it was not an ID card and could not be used as a passport, it was just part of the six month trial.

The UK Passport Service in partnership with the Home Office Identity Card Unit and the DVLA is running the six-month trail. Any UK resident aged 18 or over can take part in the trial. The disabled community is particularly welcome to participate and the Home Office is liasing with disabled rights organisations across the country to ensure that disabled people have the full opportunity to participate, in fact MORI are looking to recruit 1,000 disabled people amongst the 10,000 volunteers. The technical delivery is being undertaken by Atos Origin who acquired SchlumbergerSema in January 2004, the previous service provider, the cards are 32K Cyberflex Access supplied by Axalto and the recruitment of participants is being managed by MORI.

All the biometrics obtained from participants will be destroyed at the end of the trial. As of writing I have been unable to discover the budget for the trial. A Home Office spokesperson said "The estimated cost of the biometric enrolment trial is commercial and confidential and cannot be disclosed at this stage". The government anticipates the introduction of the first ID cards to be during 2007/8

Smart Card Industry Sales Figures for the Relevant Quarters 2004

By Jason Smith, Production and News Editor, Smart Card News Limited

Jason Smith

Companies within the Smart Card industry have now reported the results for their most recent quarters of 2004. The figures published show a healthy growth in sales through out the industry, fuelled mainly by the SIM market and EMV migration around the world. For instance, Ingenico who provide secure transaction EMV terminals, have reported their highest half-yearly sales figures since the company was founded in 1980. They estimated their sales for the first half of 2004 as 204.5 million euros. This result shows an increase of 27% over the published figures for the first half of 2003 and 4.9% over the published figures for the second half of 2003.

Max Dietrich Kley, acting CEO of Infineon Technologies AG said "The worldwide semiconductor market has gained considerable momentum during the last three months". Infineon Technologies AG who manufacture semiconductors for the Smart Card Industry reported their results for their third quarter of 2004 fiscal year. The company had revenues of 1,908 million euros, an increase of 14% sequentially and 30% year-on-year. The sequential growth was achieved mainly through higher prices for products in the Memory Products segment, as well as higher demand for products in the Secure Mobile Solutions segment.

Infineons net income in the third quarter before accrual improved significantly to 107 million euros, from 39 million euros sequentially and a net loss of 116 million euros year-on-year. Infineon is now estimated to be the No. 1 supplier of semiconductors published in the annual worldwide power semiconductor rankings by IMS Research. They are just ahead of International Rectifier and STMicroelectronics. The report by IMS Reaserch showed that Infineon holds 8.1% share of the market, International Rectifier with 8%, STMicroelectronics with 7.9%, Fairchild with 7.4% and Toshiba with 7.2%. All of the European suppliers were also helped in 2003 by the appreciation of the e uro against the dollar which automatically boosted their revenue share in terms of US dollars.

With a global market share of 27% (Gartner, 2003), microprocessor card solution provider, Axalto has reported it's results for the second quarter and they showed a strong revenue of $ 226.9 million, representing a 31% increase compared with the $173.7 million revenue recorded in the year-earlier period. Their financial report showed a very strong growth in the Smart Cards division. Revenue in this division grew by 31% in the second quarter to $ 210.2 million (an increase of 26%). Sales in Axalto's Mobile Communications segment increased by 44% to $134 million in the second quarter of 2004. This improvement resulted mainly from rapid volume growth in all their regions. The number of SIM cards sold by Axalto in this quarter rose by 37% to 57 million units. Also sales in the Financial Cards segment increased by 21% year-on-year to $48 million and sales volumes of microprocessor cards grew strongly, by 34%, due in particular to continuing migration to the EMV standard.

With sales of 430.1 million euros in 2003, Oberthur Card Systems is estimated to be one the world's leading providers of card based solutions. Oberthur has recenetly reported their sales for the second quarter 2004 as amounting to 108 million euros, showing an 11% increase on a year-on-year basis. The sequential growth during the first three months of the year reflects mainly the sales recovery in Mobile Communications (+30.7%) and Identity & Security (+31.8%) segments, whereas Payment microprocessor card deliveries have reached the level expected by the company. Sales as of the end of June 2004 have reached 210.8 million euros, a 7.3% increase compared with the previous year. They stated that this second quarter sales growth is mainly due to the microprocessor card segment. With 33 million cards delivered (+17.4% vs. the previous year) and almost stable average selling prices (-0.8%), sales for this segment are up 16.5%.

Oberthur's payment cards sales increased by 31.6% due to EMV migration in the UK despite delays observed in France and Italy. Southern Europe is the primary contributor of the sales (+78.7%) sustained by a high-end product mix: cards with memory capacity of 64K and higher represented 58% of revenues. In the meantime, sales in the highly competitive Asian market have significantly decreased (-64.1%). Identity & Security segment sales showed a strong increase (+23.5%) with significant deliveries of Pay-TV cards in Europe.

Gemplus International, another leading player in the Smart Card industry in both revenue and total shipments (source: Gartner-Dataquest (2003), Frost & Sullivan, Datamonitor.) have reported their results for the second quarter and showed that their revenue has increased from 172.4 million euros in the 2nd quarter 2003 to 210.5 million euros, which is a 22.1% year-on-year, increase in revenue. Their operating income was reported to have improved to 8.5 million euros (up 22.4 million euros year-on-year). Gemplus also reported their Net income at 1.1 million euros (up 83.4 million euros year-on-year) and their cash remains stayed strong at 383.1 million euros. Gemplus's revenue growth was primarily driven by EMV and, to a lesser extent, by Pay-TV cards. Payment microprocessor card revenue rose 37% year-on-year and 15% quarter-on-quarter.

Gemplus's EMV shipments continued to improve with strong growth in Scandinavia, France and Mexico. Microprocessor card revenue growth was partly offset by lower sales in magnetic stripe cards, due to cannibalization by EMV cards. Gemplus's revenue from Pay-TV and contactless cards in the transportation sector was strong, helped by improved execution. Identity and Security revenue was driven by the conjunction of several projects in both the Government ID and Corporate Security markets. The material improvement in gross margin, driven by a significant shift in the sales mix, endorses Gemplus' strategy focused on selling subsystems based on software components, value-added services and high-end cards. Year-on-year revenue growth was also driven by the roll-out of Government ID solutions in the United Arab Emirates, which offset the completion of the successful delivery of ID solutions to the Royal Oman Police.

In relation to payment cards, MasterCard International has recently announced strong performance results for their last three and six month periods. Total purchases on MasterCard credit and offline debit cards rose 11.7% in the second quarter compared to the same period in 2003, and the number of MasterCard cards issued around the world rose to 638.3 million. This shows that the generally improving global economic activity has led to double-digit purchase volume growth worldwide. Mastercard has stated that cardholders across the globe used MasterCard-branded cards for almost 4.1 billion transactions, generating GDV of $349.0 billion in the second quarter of 2004, an increase of 9.2% over the same period in 2003. In the first six months of 2004, transactions reached 7.8 billion, generating GDV of $680.8 billion, an 8.8% gain over the same period in 2003. GDV includes both purchase and cash volume. The value of purchases on MasterCard-branded cards, a significant measure of success, was reported as continuing to show double-digit growth worldwide.

Another company that has seen positive results in their latest financial quarter are Datakey, who showed their revenue for the second quarter as growing to $2,124,000, an increase of 106 % from $1,033,000 for the year-earlier period, up 42% from $1,501,000 from the first quarter of 2004. Their second quarter net loss narrowed to $730,000, or $0.06 per share, compared to a net loss of $872,000, or $0.09 per share, in the year-earlier period, and a net loss of $1,149,000, or $0.10 per share, in the first quarter of 2004. Datakey's revenue for the last six-months was $3,625,000, an increase of 98% from $1,827,000 for the same period last year. This increase in revenue was due to several successes Datakey achieved within this financial period. Datakey has recently delivered their Datakey Axis to 89 customers, including evaluation sites and Datakey's Model 330 Smart Card has become certified to meet the U.S. government's latest security standards, FIPS 140-2 level 2 certification. Datakey also introduced a match-on-card fingerprint based biometric and Smart Card authentication and introduced new sales channel partnerships with Indala and HID to promote the sale of an integrated physical and logical Smart ID.

Playing the Loyalty Card

By Jan Kruger, General Manager (Europe), Mosaic Software

Jan Kruger

In the UK cards industry, retailers are increasingly moving from issuing private label cards - usable only in-store - to issuing loyalty credit cards: international co-branded bankcards enjoying global acceptance. What's more, an emerging trend is for retailers to issue gift cards, some themselves co-branded, in place of traditional gift vouchers. Recently Marks & Spencer launched its MasterCard-branded credit and loyalty card, &more, aiming to convert its existing 2.6-million base of store cards to the new card with the expanded benefit of global acceptance as well as loyalty rewards.

This was the largest changeover from private-label to International credit card in Europe, and coincided with the UK's ongoing Chip and PIN programme for International EMV credit and debit Smart Cards. According to news reports at the time, Marks & Spencer launched the new card in order to breathe new life into its financial services unit, by bringing non-store card sales back within its reach.

And in late 2003, John Lewis announced that it was to launch a credit card for the UK in conjunction with HSBC. John Lewis only began accepting credit cards four years ago, but since doing so the group has seen a steady decline in the use of its store card (which the group has offered for more than 40 years). The partnership with HSBC is intended to counter this decline.

Loyalty Counts

One clear reason for this trend is that retailers want to cash in on the growing UK credit card market while building profit margins. UK consumers are, after all, the biggest credit card users in Europe according to the Credit Card Research Group. Almost 60% of UK adults own credit cards and 84% a debit card, making the UK the most developed card market in Europe. The opportunity to build deeper relationships with customers while increasing revenues is one reason for the conversion to loyalty cards.

Another factor for retailers deciding to convert their card bases now is the move to Chip and PIN. Chip cards offer card acceptors and issuers far greater security than magnetic stripe cards, mitigating the concerns many retailers might have felt at allowing their loyalty cards to be used at millions of card acceptors in the UK and Internationally. Retailers in the UK are fast following the trend set in the US of issuing gift cards in place of gift vouchers. A range of prepaid cards is now available, including not only single-merchant gift cards (most like traditional gift vouchers), but also multi-merchant cards, and cards with MasterCard or Visa branding.

It's a Gift

An indication of the volumes of gift cards being sold in the US is provided by Charter One Financial Inc, which sold 600,000 MasterCard gift cards during November and December 2003 (CardLine, 6 January 2004). This was three times what they had expected. Gift cards constituted 8 per cent of holiday season spending in the US, to a value of $17.2 billion (CardLine, 12 Jan 2004).

The prime driver for the adoption of gift cards is the reduction of fraud associated with traditional gift vouchers. Traditional paper vouchers can be counterfeited relatively easily, and of course have an inherent value which makes them a theft target. By contrast, gift cards are inherently more difficult to fake.

They are held in stock with no value associated with them. Only when sold are they loaded with a value and an expiry date. Online verification, performed when the value is redeemed, ensures that stolen cards are rendered useless.

There are many other benefits for retailers. Gift cards allow the cardholder to purchase items on more than one occasion, until the value is exhausted. This means that customers will typically make multiple store visits when using larger value cards. It is also not necessary to provide change in the form of cash, as the card can be used until the full value is redeemed.

Offering gift cards to customers instead of cash refunds is an excellent way of retaining the original sale and providing the customer with choices of replacement goods from the retailer. Finally, gift cards offer opportunities for brand reinforcement, advertising, special offers and promotions.

Processing Matters

Retailers opting to issue their own MasterCard or Visa loyalty cards in place of private label cards are faced with integrating the processing of transactions on these cards - transactions that may originate at their own POS devices and those of other card acceptors - with their existing transaction processing.

While some retailers may choose the services of third-party processors, merchant issuers are increasingly deciding to bring their transaction processing in-house. This is of particular value to retailers when complex relationships exist between them and financial entities. For example, where a retailer offers branded financial services in collaboration with an issuing institution but makes use of the merchant acquiring services of another bank, or where a retailer has multiple acquiring institutions.

Retailers need a solution that offers a centralised transaction processing hub, allowing transactions to be easily routed either to their own back-end systems or to relevant third-party providers. Also, retailers issuing gift cards need an integrated system that can manage the processes of issuing cards, activating and loading them at the point of purchase, and validating transactions when the card is used for purchases. In addition, retailers need a range of post-transaction processing services, including reconciling transaction activity records with those provided by networks and banks, settlement with third parties, and the provision of reports.

Mixing Channels

In order to expand opportunities for consumers to purchase goods and services, retailers need to be able to incorporate new sales channels, such as the Internet, call centres, and kiosks. The retail transaction processing solution must provide for these and any other additional channels the retailer may want to exploit when selling their goods and services.

To provide a seamless, efficient and accurate system that fulfils all the requirements of a modern retailer, all these elements must be brought together in a single retail transaction processing solution. The latest generation of open transaction processing software, such as Mosaic's Postilion, enables retailers and processors to deploy a single solution for all types of transaction processing and management.

Retailers can boost customer loyalty and increase sales with new add-on services to broaden what's already on offer. In addition to loyalty cards and gift cards, those services can include reward schemes, bill payment, staff discount and mobile prepay top-up, which all represent new revenue streams for retailers.

www.mosaicsoftware.com

Smart Cards, Smart Choices, Smart Citizens

By Prof Dr Kriengsak Chareonwongsak, Executive Director, Institute of Future Studies for Development (IFD)

Prof Dr Kriengsak Chareonwongsak

Progress in information technology and globalization have an impact on both government organizations and the private sector, forcing them to improve their operational systems to be more efficient, faster and accurate. Electronic identification cards with multi-functions - or smart ID cards - are an example of how a government can react to these challenges. The Department of Provincial Administration, Ministry of the Interior, Thailand, is responsible for issuing these new identification cards on time. Since April of this year, various key groups have been identified, such as those representing rural and poor people, people from the southern border provinces, and alien workers.

However, people have not been able to reach any consensus on the speedy implementation of a smart ID program, with a number of voices calling for more time to be given to develop a supporting infrastructure, and for their objections to be fully addressed. The government maintains that smart IDs will improve its efficiency, making its services more convenient by reducing red tape, transaction cost, opportunity cost and at the same time saving money, both for the government and for the public. In terms of security, too, smart ID cards will be beneficial in reducing problems related to personal identification and stamping out forged identity documents, especially with relation to aliens, border citizens who have dual nationality and potential illegal foreign immigrants.

On the negative side, though, an individual's rights may be infringed as the supporting environment for smart ID cards has yet to be finalized. For instance, laws governing the use of personal information, the precise nature of the information that will be embedded in the Smart Cards, and who will have access to it. At this juncture, the government needs to lower the temperature in the debate over Smart Cards, and put forward a policy that will unite people, rather than divide them. In these progressive times, Thailand cannot afford to shelve the project - it has to push on with it, for the benefits outlined above. But as mentioned, problems exist, especially in terms of the supporting environment. I would like to present a case for bridging this gap.

Give people the freedom to choose: Until a fully functional supporting environment is established, people risk exposing themselves by signing on for a smart ID, despite the longer-term benefits for both them and the country. Therefore, in the initial development phase, people should be allowed to choose whether or not they want to use Smart Cards. Further, once people have chosen, they should be allowed to change their minds. For instance, if a person opts to use the Smart Card, and then finds that his or her rights are being infringed, that person can renounce the card. Similarly, if a person at first rejects the card, but then feels that the supporting environment is functional, the person can adopt the Smart Card.

Give people the authority to control the use of personal information: Besides basic general personal information, such as registration data, physical information, name, education, sex, religion, etc., each individual should have the right to determine what other information is included in the Smart Card's chip, especially when such information could be used to a person's disadvantage. This additional information includes health information, such as blood group and detailed medical history, such as allergy to medication, regular medication, regular hospital, etc., and labour information, such as work record and social insurance. Furthermore, careful consideration should be given to the type and extent of the information that is passed on to a central database - if it falls into the wrong hands it could be used to exploit an individual by corrupt or malicious officials. Until there are satisfactory laws to protect an individual in this regard, people should be able to decide for themselves just how much information the government can store on the Smart Cards.

Educate people: The initial date for the introduction of Smart Cards was April 1 of this year, with the first target group being those most in need - such as rural and poor people, people living in the southern border provinces, and the alien labour force.

The problem arose, though, that not all of these people in the target groups - and others across the country - fully understood the pros and cons of Smart Cards as they had not been made aware of the contentious issues involved and the possibly negative impact the introduction of the cards could have. A further major drawback emerged in that the registration officials, as well as the potential Smart Card owners, had to have a knowledge of English, as this was the only language used for the cards. And as mentioned, the very sensitive issue of just who will have access to the information stored on the cards remains unanswered, as does the question of how this information will be protected.

It is clear, therefore, that people in all groups still need to be thoroughly informed and/or educated, and this will involve a major government public relations campaign. For this, the government should cooperate with the private sector, both in the capital and in the provinces, so that by the target date of 2006, the public will be fully informed and ready for the distribution of the cards, and the necessary supporting environment will be in place. In this way, the public will be receptive to the idea of using Smart Cards as they will have been properly educated, and the government will save money by carefully addressed all problems before they become a major stumbling block and require additional funds and resources and create public resistance. The government cannot afford to have a hostile public. It needs to introduce Smart Cards for the benefit of the country and its people. By acting now, in a cool and systematic manner, this goal can be achieved - and the public will be receptive and grateful. This is the way forward, with the public and the government working towards a common goal for the good of Thailand.

Patent Power at London Hospital

Great Ormond Street Hospital, UK, has installed 350 bedside and public-area Card Activated Telephones (CAT). Patients and parents can now make and receive low cost calls which can be paid for by credit/debit card or pre-paid phone card. The new installation ensures that patients and visitors only pay for the time they spend actually on the phone, using their credit/debit card. Great Ormond Street Hospital fully meets the government's Patient Power directive, which states that by the end of 2004 every major hospital should have a bedside phone. The CAT phones are similar in design to an ordinary office phone, but have a swipe card reader on the side. Since the bedside phones in Great Ormond Street Hospital have gone live, patients and visitors have been using them on a daily basis. The Great Ormond Street Hospital telecoms department and the CreditCall technical team worked together closely to ensure the project was delivered on time and within budget.

Events Diary 2004

September

2 - 4	SmartCards Expo 2004/e-Security 2004. - *New Delhi, India -www.electronicstoday.org*
15 - 16	3rd Asian High Security Printing Conference - *Jakarta, Indonesia - www.cross-conferences.com*
21 - 23	EFMA Cards and Payments Conference & Expo - *Paris, France - www.efma.com/cards*
22 - 24	e-Smart 2004 - *Sophia Antipolis French Riviera - www.worldofcards.biz/2004/cards_AU*

October

3 - 5	CTST Public ID - *Virginia, USA - www.ctst.com*
5 - 9	Advanced Technology Exhibition and Conference - *Japan - info@tradefair.co.uk*
5 -7	Cards Africa 2004 - *Johannesburg, South Afica - www.worldofcards.biz/2004/cards_ZA/*
17 - 19	Banking Technology Africa 2004 Conference - *Africa*
17 - 20	ICMA Expo 2004 - *Prague, Czech Republic - www.icma.com*
18 - 20	Smart Card Alliance 2004 Fall Annual Conference - *San Francisco - www.smartcardalliance.org*

November

2 - 4	Cartes 2004 & IT Security 2004 - *Paris, France - www.cartes.com - www.itsecurityexpo.com*
15 - 17	Inside ID Conference & Expo 2004 - *Washington DC, USA - www.jupiterevents.com*

UHF RFID Tags Today

By Jason Smith, Production and News Editor, Smart Card News Limited

With the recent initiatives by the US Department of Defense (DoD) and the mandates from Wal-Mart, Target and other major retailers, UHF RFID technology is entering an important phase of expansion. Yet, for all we hear about UHF (ultra high frequency) and EPC (electronic product codes) in the press, and for all the declarations made by RFID technology suppliers regarding intentions to operate in this promising market, UHF tags are only just becoming available and are still not offered as off-the-shelf products within the product portfolios of most RFID tag suppliers.

Marko Hanhikorpi

UHF tag design, production and integration into real life applications is still new and unexplored territory for many suppliers. We met with Marko Hanhikorpi, VP Technology Platforms at UPM Rafsec, and Tommi Terävä, Vice President of Production at UPM Rafsec, to learn more about the status and the trends in UHF tag design, production and use today. UPM Rafsec is an RFID tag supplier that is already offering UHF technology in its labels today.

UHF Tag Design - where experience is paramount: Designing UHF tags to maximize performance requires very specific skills and extensive hands on experience. UPM Rafsec is at the forefront of the UHF tag design activity in many very large-scale projects. Marko Hanhikorpi has witnessed how this wealth of experience has been acquired by the Finnish company. We've been working on UHF tags for a couple of years now," explains Marko Hanhikorpi. "UHF antenna designs are a lot more complex than, for example, HF (High Frequency) antenna designs. We can design a completely new HF antenna and optimize it within days. For UHF, that process can require a couple of weeks, depending on how many optimization cycles we have to go through and whether we have already produced a similar design before. Luckily, the chances of that happening are actually pretty high," he laughs, pointing to the tall stacks of antenna designs all around the laboratory.

"When designing a UHF antenna, we start with customer specifications, such as maximum dimensions, IC type, tag orientation, etc. One of the most important parameters is on what material the tag will be used on: is it a low absorption material, like paper, a high absorption material, like fruits and vegetables, or a reflective material, like most metals? We also ask the customer about the environment the tag is going to be used in, such as the reader systems and their positioning. This information is very important for optimising tag performance. Otherwise you end up with a tag that performs well in the lab, but not in the real world." "

With these specifications, we prepare the first design and then actually make samples using our 'wet lab'. The wet lab enables us to make prototype UHF antenna samples very quickly so that we can start performance optimization. And this is where our experience comes in, because changing the antenna design to maximize performance requires a lot of experience. We normally go through a couple of iterations of the optimization cycle before we have our final design."

Testing UHF Tags: Well-designed UHF tags may be rare, but well tested UHF tags are even harder to find. At this phase in the development of UHF technology, it is extremely important for companies planning an RFID implementation to work with UHF tags that are reliable. Tommi Terävä explains how at UPM Rafsec the reliability of a UHF tag starts with an application-specific design, followed by a specially designed production process. "To us, with a background as a manufacturing company, it was clear that we needed to implement high quality processes with continuous monitoring. That's why we are a fully ISO 9000/2000 certified company.

In order to make sure that production runs smoothly and outgoing quality is always good, we test each and every tag that leaves our factory. Monitoring includes both functional testing of the tag as well as the testing of important electrical characteristics. Not only can we adjust process parameters according to the outcome of the tests, but we also keep a log of the results so that we have full traceback capability."

"Testing is very important at this stage of the UHF technology development," says Tommi Terävä. "Look at the more mature HF (High Frequency) tag technology: we have been producing HF tags in the millions each month for some time now and have gained a lot of experience. A new design can be in production within days and from our design and manufacturing experience, we know that the new tag will be reliable and that the yield of the production process will be very high."

"For UHF platforms, however, there is much less volume production experience available. So to ensure a constant quality level and to enable process improvements that provide even higher yields and thus lower costs for our customers, proper monitoring mechanisms have to be in place. We feel very strongly about ensuring that our customers get UHF tags of the same quality as our HF tags are well known for, and we are now in the position to meet all the requirements set by high volume UHF tag manufacturing." "The test system is just one of the many things we do in production to ensure our customers get reliable products, but what is more important is that we are committed to continuous improvement, training, and using high quality materials and machines." says Tommi Terävä. "And that's important for a market where the expectations are really high. Just look at all the UHF technology piloting that is going on right now. It's clear that reliable, high performance UHF tags are fundamental in generating widespread confidence in UHF technology."

UHF Tags in the Real World: When rolling out an application based on UHF tag technology, you will first of all want to make sure you can count on reliable, high performance UHF tags: tags featuring world-class design and manufactured using high quality, volume production facilities. The next phase is to actually use the UHF tag in your application. How do we, as UHF tag manufacturers, ensure that our products meet your application-specific requirements? "At a first glance, this seems a simple enough question to answer," says Tommi Terävä.

"A high performance UHF tag will perform well in any application, right? The real world isn't that simple. As we have seen in the tag design phase, the performance of a UHF tag depends very much on the materials present in its environment, such as those of the object it is applied to. Take a cardboard box, for example. You can design a tag to work well when applied directly to cardboard. But the box will be used to ship products and these will also be close to the tag and will influence its performance."

"A cardboard box containing rolls of cookies and a cardboard box containing bottles of shampoo will require two different UHF tags. For the box with the bottles of shampoo, there will also be a significant difference in performance when the same tag is placed in different positions. In fact, the shampoo, due to its high water content, has a strong effect on tag performance. With the cookies, on the other hand, the position of the tag on the box will be much less important.".

"So the question then becomes how to determine the best position or 'sweet spot' on a specific package type which offers the best tag performance. This can certainly be done using a normal UHF reader and determining the maximum read range for different tag locations, but, in practice, this means a lot of work. In addition to ensuring the electrical performance of the tags at the outset, survival until the end of their life cycle and their easy integration onto the product where they are needed must also be guaranteed. Only then does an RFID tag have real value to end-user.