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Smart Card News

Smart Cards, SIM, Biometrics and RFID

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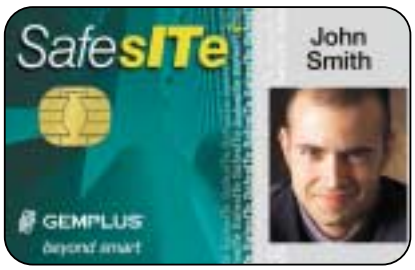

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Smart Card News is published monthly by
Smart Card News Ltd
Columbia House, Columbia Drive, Worthing,
BN13 3HD England
Telephone : + 44 (0) 1903 691 779
Fax : + 44 (0) 1903 692 616
General Enquiries : info@smartcard.co.uk
ISSN 1745-7858

www.smartcard.co.uk

Managing Director
Patsy Everett
patsy.everett@smartcard.co.uk

Production and News Editor
Jason Smith
jason.smith@smartcard.co.uk

Technical Advisor
Dr David Everett
david.everett@smartcard.co.uk

Sales and Subscription Administor
Maxine Laker
maxine.laker@smartcard.co.uk

Editorial Consultants
Dr Kenneth Ayer
Peter Hawks
Simon Reed
Robin Townend

This Issues Guest Contributors
Apacs
Frost & Sullivan
Carl Norell
David Porter
Mark Klummer
IDTechEx
Dr. David Everett

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Dear Subscribers,

ID theft continues to hold the headlines this month with HSBC having to notify over 180,000 cardholders in the U.S.A of a data security breach. Reported in the Wall Street Journal, General Motors branded MasterCard cardholders who shopped at Polo Ralph Lauren stores in the US may have been affected by the breach which revealed personal data about the cardholder. There have also been reported data security breaches at credit data company ChoicePoint and Lexis Nexis. We all understand that the banks have to tighten security to protect our money but how do the elderly or people with learning difficulties cope with communicating with the bank. Before the bank will talk to you you have to identify yourself with your PIN or security number, if you don't have these you have to remember your password. What happens when the account holder dies? How do you identify their account if they haven't given anyone power of attorney?

This month also saw the first group of Scottish Local Authority employee's graduating in Microexpert's "Smart Card Technology Training Program". Over a period of six months 12 students with little or no experience in Smart Cards attended the course hosted by Aberdeen Council and funded by the Scottish Citizens Account Smartcard Consortium (SCASC). The councils that took part were Aberdeen City, City of Edinburgh, Dumfries and Galloway, Dundee City, East Lothian, Fife, Inverclyde, Midlothian, West Dunbartonshire and West Lothian Mr. Tom McCabe, Scottish Minister for Finance and Public Sector Reform took part in the graduation and commented after the ceremony, "Well trained staff are a vital element in delivering successful smart card technology and I am delighted that all of the students have passed with flying colours. They will go on and play a vital role in ensuring that smart card systems are as effective as possible across a wide range of public services."

Back Row from left to right: Alistair Marshal, Kevin Knox, Ronnie Batchelor, Damien Bird, Graham Andrew, Lee Worthington, Donald Clarke

Front Row from left to right: Nadir Freigoun, Ann Royden, Minister of State Tom McCabe, Shona Hayes, Jim Mudie Colin Brown was unable to attend

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US Vs EU Over Biometric Passports

The perception of *"Fortress America"* has just heightened with the introduction of the new U.S. requirements for all passports of foreign visitor entering the US to included a chip with biometric identifiers embedded within it by 26 October 2005. These new passports are intended to increase security by including data encoding the owner's facial characteristics, fingerprints or iris scans, stored on a chip embedded in the document. These new biometric passports will be harder to fake and will aim to speed up border controls. However they are causing eruptions between the US Congress and the European Union.

European Justice Commissioner Franco Frattini has written to the US Congress requesting that they delay their biometric passport deadline of October 2005 for visitors to the US without a visa. Mr Frattini has asked for the deadline to be delayed until August 2006. Currently only six EU countries can potentially achieve the October deadline. These EU countries are Austria, Belgium, Finland, Germany, Luxembourg and Sweden. The UK is also having its own negotiations with the US Congress in an attempt to extend the deadline. If the EU misses the deadline, now only six months away, European citizens attempting to travel to the US on a new passport will no longer be covered by the American visa waiver programme, and so will need a visa.

The main reason for the delay seems to be due to the interoperability and security elements of the biometric readers taking longer than expected. Though the International Civil Aviation Organization (ICAO) has introduced global standards governing biometric passport chips there are fears that the machines designed to read them are not yet reliable. But the main issue in dispute is how biometric passports should work. In his letter to Mr. Sensenbrenner, Mr. Frattini blamed failure to meet the deadline on the late agreement of these international standards for passport biometrics. He said the introduction of biometrics in U.S. passports had been delayed for the same reason. A report commissioned by the European Commission warns of the dangers of introducing biometrics prematurely. Called *Biometrics at the Frontiers*, this report points to a lack of independent assessment of the reliability of biometric data, and says there is an urgent need to conduct large-scale field trials to ensure the successful deployment of biometric systems. A UK Home Office spokesman said: "No final decision has yet been made on the inclusion of a second biometric such as fingerprints or irises in passports. As the UK Passport Service plans state, "this is something under consideration as countries around the world move to tighten passport security."

Sir Digby Jones, the director-general of the CBI is also calling on Congress to grant the UK a six-month extension. He stated "Losing the right to visa-free travel to the US in a little over six months' time will present enormous problems for the UK. Applications for US visas can take up to three weeks, but global business just doesn't work in these time-frames." According to figures from the British government's Office for National Statistics, more than 4 million British citizens travel to the US every year injecting more than 6.75 billion US dollars [£3.6 billion] into the US economy. So a postponement of its visa-only deadline is essential for the UK otherwise the US risk damaging US-UK trade and tourism. Transatlantic business relations between the US and the whole of the EU will be strained and billions of dollars of tourism revenue squandered if no further extensions are permitted. Sir Digby added that the US time-scale for biometric passports was not realistic and risked establishing an impractical process. Even American citizens were not expected to have biometric passports until the end of 2006, as many US airports are not yet equipped to deal with them.

However House Judiciary Chairman F. James Sensenbrenner Jr. has told European officials that the deadline had already been pushed back one year, and that continuing concern among lawmakers about U.S. border security would make another delay "difficult to accomplish." This refusal could cause the EU to retaliate and decide that it will require US citizens to obtain visas to travel to EU countries, if their US passports do not contain digitised facial data.

It appears that both parties need to find some kind of understanding if they are to make biometric passports a success. If they don't achieve this then what has been designed to make transatlantic travel quicker and more secure could actually have the reverse effect and delay the travel process causing inconvenience and financial loss.

Smart Cards

Scotland Gets Chipped

The Scottish Local Authorities have joined together to form the Scottish Citizens Account Smartcard Consortium (SCASC), sponsored by the Scottish Executive they have come together to use Smart Cards and Smart Card applications to join-up the delivery of local authority services. Initially promoted by 11 authorities in Scotland it is now being expanded to include all 32 Local Authorities. At the current time SCASC is looking at the three early adopters, Aberdeen, Dundee, and Edinburgh of Citizen smart cards.

According to Dr. David Everett, CEO at Smart Card Group, the Scottish Authorities are working together to learn about Smart Card technology and to pool their experiences on the best route forward. This approach will undoubtedly put them in a strong position to achieve their business objectives and to act as an example to other Local Authorities in the UK.

Alliance Forms Transport Council

The Smart Card Alliance has announced the formation of the Transportation Council to promote the adoption of contactless interoperable smart card payment systems for transit and other transportation services.

The newly formed Transportation Council, in association with the American Public Transportation Association (APTA), will initiate projects to support applications of Smart Card use. The overall goal of the Alliance's Transportation Council is to help accelerate the deployment of standards-based Smart Card payment programs within the transportation industry.

Smart Cards for Korean Soldiers

As of 2006 The Korean Defence Ministry will be issuing Smart Cards to Korean soldiers as a means of ID and as a debit and transportation card. Soldiers will be able to use the card to buy and pay for goods and services at post exchanges, and withdraw or transfer money from their accounts at commercial banks.

The card will also store records from physical check-ups to reserve exercises. The card, called the e-Defense Service Card, will go on trial in the second half of this year.

e-Passport to Belgium

Oberthur Card Systems has been selected by the Kingdom of Belgium as providers of the first ever ICAO compliant electronic passport in the world. The long-term agreement with the Belgian administration calls for the personalisation and delivery of 500,000 e-passports per year. This success was achieved because of the complimentary expertise of each company in terms of high-security printing, personalisation (cards, checks) and Smart Card based solutions.

Support for DoD Smart Card Program

Viisage has received a new order for $1.7 million to continue to support the production of secure, smart credentials as part of the Common Access Card (CAC) program for the United States Department of Defense (DoD). Viisage received the order through Telos Corporation, one of the major support contractors to the Defense Manpower Data Center (DMDC), the organisation inside DoD responsible for implementation of the CAC program.

First EMV Project in China

Oberthur Card Systems has been selected by the leading Chinese bank Industrial and Commercial Bank Of China (ICBC) as its card technology partner for the forthcoming EMV migration program. The one-year contract calls for Oberthur Card Systems to provide ICBC with EMV global platform products as well as technical and consulting services. ICBC will become the first Bank to issue EMV cards. This project marks the beginning of the long awaited migration to EMV of Chinese Banks.

Cubic Awarded Contract with PATCO

Cubic Transportation Systems, Inc has been awarded an 11.3 million US dollars contract for design and integration of a new multi-modal, contactless Smart Card based automated fare collection system. This system will link rail and parking services for the Port Authority Transit Corporation (PATCO), a subsidiary of the Delaware River Port Authority (DRPA).

Axalto Teams with Adobe

Axalto, has teamed with Adobe Systems Incorporated to provide non-repudiative signatures, encryption and access controls in document publishing tools. The solution is available now on Axalto's Cyberflex Access Smart Card products and works with the popular Adobe Acrobat software, version 6.0 and above. Customers using Axalto Smart Cards are able to seamlessly and electronically sign, encrypt, and secure access to documents using the portable credentials they carry securely on their Smart Card badges.

G & D Wins Tachograph Contract

Giesecke & Devrient (G&D) has been commissioned by the Department of Transport of the Republic of Ireland to supply 100,000 Smart Cards and the corresponding technological infrastructure for digital tachographs over the next five years. As of August 2005, EU regulations require all newly registered trucks and buses to be equipped with a digital tachograph. For G&D, the deal represents the first public contract with Ireland and, following Germany and Belgium, the third tachograph project in succession.

Basel Crossing Project is Extended

On Track Innovations Ltd, (OTI) has announced that the Basel Project, a border crossing system that includes contactless Smart Cards and biometrics for identifying Palestinians who wish to enter Israel, is being extended to more access points. The Basel Project contract for the Erez border crossing at the Gaza Strip was awarded in September 1999 to a consortium including OTI who furnishes the front end solution based on its SmartID product, including ISO 14443 compliant cards, readers and related software. The Basel Project is currently the only operational project to use a contactless Smart Card with biometrics and PKI infrastructure.

18 Million Chips for China

On Track Innovations Ltd, (OTI), has announced that approximately 18 million contactless ID Smart Card chips incorporating the OTI technology were delivered to the China ID Project during the year 2004. According to certain news agencies in China, the aim of the China ID Project is to provide Smart ID cards nationwide by the end of 2008.

Cards for India's VehicleProgram

Gemplus has delivered over 100,000 GemSCOSTA optical Smart Cards to the State of New Delhi in the first phase of India's vehicle registration card programme. India's Smart Card based programme for vehicle registration and drivers license is expected to be the world's largest of its kind, with a market potential of over 100 million cards issued nationwide over the next five years.

EMV Migration for Spain

Axalto has announced that it is currently supplying its smart Advantis banking cards with EMV technology to Spanish bank Caixa Penedes, allowing the first EMV rollout in Spain. Axalto's live dynamic data authentication (DDA) cryptographic cards are based on the EMV specifications written by the Spanish banking association Sermepa. Validated and authorised by Visa International, the cards are already used in shops and cashiers prepared for the management of the EMV chip.

New MULTOS Consortium Members

ACI Worldwide and Thales have joined the MULTOS Consortium. On joining ACI will gain an influential seat in the Systems Forum and Business Advisory Group of the MULTOS standards body. As a systems membesr, ACI and Thales will have voting rights over the further development of specifications relating to off-card data preparation and personalisation of MULTOS applications.

SuperCom Receives $2.5M Renewal

SuperCom Ltd has signed a three-year renewal agreement with a customer in Hong Kong. The agreement is for the supply of both technology and services and is valued at approximately $2.5 million

5 Million SIM for Russia

Oberthur Card Systems has been selected by Vimpelcom, the second largest mobile operator in Russia, to supply 5 million 64K SIM cards during 2005. Oberthur Card Systems has been able to provide the technical expertise to complete the new SIM profile implementation and aid Vimpelcom in the migration from standard 16K SIM cards to 64K STK SIM cards with tailored applications.

Sharp/IBM Release New Smart Card

Sharp Corporation is expected to start shipping its 1-megabyte Smart Card in May 2005. Working closely with IBM the new 1-megabyte Smart Card operates on IBM's Java Card Open Platform. The card uses Flash memory technology instead of the traditional IC card to achieve the 1-megabyte of memory.

SCM Enters Healthcard Market

SCM Microsystems, Inc has entered the market for hardware terminals designed to read the new German electronic healthcard. Germany is in the process of deploying a new intelligent, electronic healthcard to its citizens throughout the country. 80 million intelligent healthcards are expected to be in use by 2006. SCM's new terminal solution will read and operate both with Germany's current memory card-based healthcard as well as with the Smart Card based healthcard.

SAGEM Joins Smart Payment Alliance

SAGEM has announced that it has joined the Smart Payment Alliance, a new industry-wide association gathering the leading Smart Card manufacturers in the world such as Axalto, Gemplus International S.A., Giesecke & Devrient, and Oberthur Card Systems.

ASK Receives Leadership Award

ASK have become the recipients of the 2004 Frost & Sullivan Market Leadership Award in the contactless world Smart Card market. The award recognises implementing superior market strategies and establishing itself as the market share leader.

OMNIKEY Open in Asia Pacific

OMNIKEY has inaugurated its regional operations in Asia. The opening of the new office located in Hong Kong, is a strategic move to strengthen the company's position in the fast developing local market for Smart Card and RFID-readers.

G & D Moves into Central America

Giesecke & Devrient (G&D) has unveiled a new production facility in Mexico City. The facility represents an investment of roughly $10 million and allows the organisation to expand the internationalisation of its operations.

New ABN AMRO Chip and PIN Card

All ABN AMRO Bank credit card holders will soon receive a new credit card with a contemporary design, fitted with a chip, between mid-March and mid-May. The new credit card means ABN AMRO Bank will comply with EMV standards and replaces signature-based payment authorisation with a PIN-based system that minimises credit card fraud.

New Common Protocol

MasterCard International and Visa International have announced that they have reached an agreement to share a common communications protocol and associated testing requirements for radio frequency-based contactless payments at the point of sale. This protocol is based on the MasterCard PayPass ISO/IEC 14443 Implementation Specification.

Contactless payments, like MasterCard PayPass and Visa Contactless programs, allow cardholders to speed through checkout by paying with a simple tap or wave, eliminating the need for customers to hand over their payment card to a merchant or fumble for cash and coins. The agreement means that cards and terminals supporting MasterCard and Visa contactless payment applications will conform to the same communications protocol and undergo equivalent testing. .

Record Orders in Turkey

Ingenico has booked record sales in Turkey since the beginning of 2005. In the past two months, Ingenico received orders for 100,000 payment terminals- i.e. as many as the company sold there in all of 2004. Based on the IngeCore chip and the UNICAPT 32 platform, this order backlog is deliverable in the first half of 2005.

Miniature Smart Card Reader

ID TECH has developed a miniature Smart Card reader that is more durable than any other small reader on the market. The MiniSmart is just over two inches wide and about an inch deep, yet it delivers reliable performance for more than 1 million card cycles. The MiniSmart reads and writes to Integrated Circuit Cards (ICC or Smart Cards), memory or microprocessor, conforming to ISO 7816 standards.

'Zing' Card Achieves ICMA Award

Gemplus has announced that the Gemplus Goldpac Group has won the International Card Manufacturers Association (ICMA) Élan Award for Best Financial Card for its MasterCard 'Touch 'n Go Zing' contactless electronic payment Smart Card. The Élan Awards are presented to ICMA member companies in recognition of their advancements and achievements in plastic card design.

MasterCard Signs up for WPC

The Welsh Procurement Initiative (WPI) has signed a deal with The Royal Bank of Scotland that could save public sector organisations across Wales in excess of £30 million. The Welsh Purchasing Card (WPC) will now be provided by The Royal Bank of Scotland on both Visa and MasterCard platforms and will be used to manage lower risk purchases.Currently 25 public sector organisations in Wales use the WPC and the WPI predicts that in excess of £12 million will be spent on goods and services via the new card by the end of 2005.

Third Tachograph Order for ORGA

ORGA has won the order to supply digital tachograph cards nationwide to Norway, the third order of this kind for the Paderborn-based company. As part of a contract running several years, ORGA has been commissioned as the exclusive supplier of pre-personalised Smart Cards by the general contractor TAG Systems AS. The first Smart Cards are scheduled to be delivered in the summer of 2005.

Biometrics

UAE Airports to Get e-Gate System

Lieutenant-General Shaikh Saif bin Zayed Al Nahyan, Minister of Interior for the United Arab Emirate (UAE) has announced that all UAE airports are to have e-Gate installed to allow passengers fast access through electronically-controlled gates.

The e-gate project had initially been experimented at the Dubai International Airport, which is the third in the world, and first in Middle East to install such an advanced passenger clearance system that considerably accelerates the movement of traffic through electronic screening of passengers' data with the help of a Smart Card.

Biometric Passports for Norway

The Norwegian National Police Directorate has chosen the Finnish Smart Card company Setec to be the manufacturer of its new biometric passports that will be introduced in Norway in October 2005. The agreement is for three years including an option for two extra years. The value of the agreement is over EUR 30 million. The deliveries will start at the beginning of October, and the estimated volume is approximately 600,000 passports per year. As a result of this agreement Setec will establish a new subsidiary in Norway.

First e-Passport Roll-Out in Singapore

Gemplus will supply contactless chip technology and supporting systems to the Immigration & Checkpoints Authority (ICA) of Singapore for use in their biometric passports. The consortium is led by NEC Solutions Asia Pacific. Under the terms of the project, Gemplus' contactless chip technology, GemBorder, will be embedded in Singapore's new biometric passport.The chip will contain biometric information about the passport holder such as fingerprint and facial details.

Saudi Biometric Security Move

Companies in Saudi Arabia are planning to use biometric technology to increase workplace security, reported Gulf News. A report commissioned by Hitachi Data Systems showed that 56% of companies surveyed were planning to introduce iris scanning and fingerprint recognition systems. But 31% feared that biometric information would be misused by their company or government agencies.

Biometrics and RFID Hybrid

TransCore with the U.S. military has combined radio frequency identification (RFID) and biometrics to help positively identify both vehicles and drivers from the vehicle lane as they attempt to enter a facility. The system is completely wireless, and includes a keychain-attachable fingerprint biometric device that operates from within the vehicle.

The system is ideal for military bases, nuclear and chemical plants and other facilities that must maintain multiple layers of security and control while providing trusted users the convenience and speed of automated access.

Radio Frequency Identification

New ePassport Readers

ACG Identification Technologies and OMNIKEY have develop a new e-passport RFID reader. The new readers are designed to support federal governments and the security industry in deploying interoperable border control solutions based on contactless electronic passports, as specified by ICAO.

RFID Global Solution Tackles RFID

RFID Global Solution, Inc. has announced its official launch. RFID Global Solution team members represent respected professionals in the industry who are veterans of some of the largest RFID initiatives to date, including development of the world's largest RFID network for the Department of Defense and the move to RFID at the world's largest retailers. nRFID represents a promising technological advance with the ability to create efficiencies and significant return on investment. Adoption, however, has been slowed by implementation challenges. RFID Global Solution was founded to address RFID challenges being faced by companies attempting to meet compliance standards mandated by the largest retailers, the Department of Defense, as well as those companies implementing RFID solutions internally to increase business process efficiencies.

New JV in RFID Antenna Production

UPM, Outokumpu Technology and Finnish Industry Investment have established a joint venture to produce high quality RFID (radio frequency identification) antennas as well as to develop their production technologies. The joint venture is the world's first mass producer to specialise in RFID antennas aiming at global markets. Production is scheduled to start in the autumn of 2005.

ISO 14443 RFID Solution for PayPass

Texas Instruments is to supply RFID chips for Mastercard's PayPassTM RFID cashless payment cards and tokens. The RFID chips are fully ISO/IEC 14443 compliant and offer the high security required for financial transactions. American Express has also begun the roll-out of its ExpressPay RFID payment system which is also based on TI's ISO/IEC 1443 chips.

ExpressPay Gains Momentum

American Express has announced that Ritz Camera, America's largest photographic chain, and Sheetz, the family- owned convenience store chain, have signed on as the newest partners in its ExpressPay contactless payments program.

Market in Figures

Oberthur's 2004 Full Year Results

Oberthur Card Systems have reported their sales figures as reaching 450.8 million euros in 2004, a 7% year-on-year increase before parity impact and 4.8% at current rate. During this period, Oberthur Card Systems delivered 148.3 million microprocessor cards, a 16% increase compared with last year, while the average selling price declined by 5.5% at constant exchange rates. Second half sales of 240 million euros increased sequentially by 13.9%. The dynamism in all of the company's activity segments is particularly significant in Q4, compared with Q3: +50.7% in mobile communications, +37.8% in Identity and +26.7% in payment services & solutions.

OTI Reports 2004 Fourth Quarter

On Track Innovations Ltd. (OTI) has announced its consolidated financial results for the fourth quarter and fiscal year ended December 31, 2004. Revenues for the year ended December 31, 2004 increased to 23.2 dollars million from 19.6 million dollars for the same period of last year. Revenues for the fourth quarter were up 7.8 million dollars from 5.8 million dollars in the same period last year. Net loss increased to 9.3 million dollars, from 3.6 million dollars for the same period in 2003.

SAFLINK 2004 Results

SAFLINK Corporation has announced its financial results for its fourth quarter and fiscal year ended December 31, 2004. Revenue for the fourth quarter of 2004 was 2.3 million dollars, compared to 2.4 million dollars for the third quarter of 2004 and 488,000 dollars for the fourth quarter of 2003.

The Company reported a net loss attributable to common stockholders of 6.6 million dollars in the fourth quarter of 2004. Revenue for fiscal 2004 was 6.4 million dollars, compared to 2.0 million dollars for fiscal 2003.

On the Move

New Gemplus President for Asia

Gemplus International has announced the appointment of Dr Martin McCourt as President of Gemplus Asia, reporting to Alex Mandl, President and Chief Executive Officer.

Dr McCourt joins the Gemplus General Management committee and will be responsible for the whole of Asia, including Asia Pacific, Greater China, Japan and Korea.

New VeriFone Head of Marketing

VeriFone has appointed Chris Lomax as Head of Marketing for VeriFone EMEA. Lomax brings to VeriFone over 15 years' professional experience in the Smart Card, payments and security arenas.

Lomax, who will focus on strategic revenue objectives in his new role, replaces Richard Crookston, who becomes Director of Product Strategy.

New VP for Gemplus

Gemplus has appointed Philippe David to the newly created position of Vice President Business Development in the Financial Services Business Unit. His role is to ensure that all of Gemplus' products, services, tools, resources, skills and messages are aligned with the company's key goals.

CardXX Bolsters Board of Directors

CardXX, Inc has bolstered its Board of Directors and that Paul Lewis will step down as President and CEO effective April 1, 2005. CardXX also announces the appointment of Eric Hellige to the company's board of directors.

New VP for ITG

ASSA ABLOY Identification Technology Group (ITG), a manufacturer and supplier of identification components, has announced that Enrique Patrickson has been appointed Vice President of Business Development.

Enrique Patrickson will be responsible for leading the ITG Business Development activity in new identification markets and for the company's M&A activity. Patrickson succeeds David Sullivan who has now assumed the position of Managing Director of HID EMEA.

New Regional Sales Manager for HID

HID has solidified its focus on expanding market opportunities in Eastern Europe with HID EMEA's appointment of Jaroslav Barton as regional sales manager for Eastern Europe, based in the Czech Republic

HID has also tapped Michael L. Davis for the newly-created position of Director of Technology, Intellectual Property. In his new role, Davis will leverage his extensive experience in the access control market with his broad range of knowledge in leading technology developments to drive HID's future product initiatives.

New ACG Development Manager

ACG Identification Technologies has announced that Andreas Lübeck has joined the business unit Secure ID as business development manager. Andreas Lübeck will be responsible for developing the business of ACG in the widely growing markets of advanced identification solutions and will provide his profound knowledge of microcontrollers for e-passport projects.

UK Card Fraud Losses Reach £504.8m

According to new figures released by APACS, the UK payments association, UK card fraud losses totalled £504.8m in 2004, up by 20% compared to 2003 (£420.4m). The rise is attributed to fraudsters increasing their illegal activity before the security benefits of chip and PIN are fully realised. They are also targeting other areas such as card-not-present and identity fraud.

Plastic card fraud losses (£m) on UK-issued cards split by fraud type

Fraud Type	*2004*	*2003*	*2002*
Counterfeit (Skimmed/cloned) cards	*129.7 (+ 17%)*	*110.6*	*148.5*
Cards stolen or lost	*114.4 (+ 2%)*	*112.4*	*108.3*
Crads not presnet fraud	*150.8 (+ 24%)*	*122.1*	*110.1*
Mail non-receipt	*72.9 (+ 62%)*	*45.1*	*37.1*
ID Fraud	*36.9 (+ 22%)*	*30.2*	*20.6*
Fraudulent Applications	*13.1 (- 14%)*	*15.3*	*10.2*
Account Takeover	*23.8 (+ 59%)*	*14.9*	*10.4*
TOTAL	*504.8 (+ 20%)*	*420.4*	*424.6*

Card-not-present fraud (CNP) continues to be the biggest fraud type (up by 24% to £150.8m compared to £122.1m in 2003), however these losses only grew in proportion to the number of businesses now offering transactions made by phone, fax or online. Online credit card payments have increased five-fold since 1999, to the point that 10% of all credit card spending now takes place online. ID theft on cards has grown significantly over the last two years (up 22% from £30.2m in 2003 to £36.9m in 2004), but remains a small proportion of overall fraud losses.

Counterfeit card fraud increased slightly (up 17% to £129.7m in 2004 from £110.6m in 2003) and there was a small rise in fraud on lost and stolen cards (up 2% to £114.4m compared to £112.4m in 2003). Together fraud on lost and stolen cards and counterfeit cards accounted for almost half (48%) of all losses. With chip and PIN now almost fully implemented, however, it is set to have a major impact in these two areas. Fraud on cards stolen before the genuine cardholders receive them (mail non-receipt) grew sharply - up by 62% to £72.9m - as criminals took advantage of the unusually high number of cards sent out due to the rollout of new chip and PIN cards. In 2004 there was an average of some 200,000 cards a day sent out. Fraud at UK cash machines also grew by 81% to £74.6m, up from £41.1m in 2003. Increasingly, chip and PIN will help address these areas of fraud as the number of shops where cards stolen in transit can be used without a PIN will diminish and it will also prevent the use of skimmed cards at cash machines.

The downward trend in fraud losses overseas continued (down 11% to £92.5m), thanks to card companies' use of increasingly sophisticated fraud intelligence systems to detect fraudulent spending on cards. Sandra Quinn, director of corporate communications, APACS, comments: "When the banking industry decided to introduce chip and PIN in the UK our fraud forecasts showed that without it card fraud losses would top £800 million by 2005. So while we still have a battle on our hands, we are on track to see a significant reduction in this amount." "As more of us use a PIN the harder the criminal's life becomes. But clearly they are going to keep targeting cards. Many people have predicted where the fraudsters willn attack next but we have long foreseen that we need to keep cards secure in all environments. That's why there is a whole raft of fraud prevention initiatives in place and in the pipeline to prevent, deter and detect all kinds of card fraud - both at individual bank level and industry-wide."

As well as plastic card fraud, organised gangs also moved into other types of financial crime notably phishing scams, ID theft and cheque fraud. In 2004 total losses for online banking fraud were recorded for the first time and reached £12m. These scams mainly involve phishing where customers are duped into disclosing personal security information, as well as Trojans that capture security credentials through keystroke logging.

The Profusions of Contactless Standards

Merely convenience and speed of transaction are not likely to suffice to expand the scope and adoption of contactless Smart Cards. Most applications for these Smart Cards require compatible standards, if they are to obtain international acceptance as well as promote payment and government ID markets. New analysis from Frost & Sullivan World Contactless Smart Cards Markets, reveals that the market shipped 121.7 million units in 2004. This expects to reach 847.3 million in 2009. A profusion of standards in the contactless Smart Cards market, significantly restrains market growth. Even the ISO 14443, the most prominent standard, has Type A and Type B varieties and hence, there is very little cohesion in operation. "International standards have to be worked out to enable terminals to accept payment through contactless mode, irrespective of its issuers," say Frost & Sullivan analysts Vihar Bhagwat and Karthik Nagarajan. After the standardisation issue is sorted out, contactless Smart Cards market participants will have to focus on ridding users of their apprehensions about integrating new applications with the existing technology. The installed base of contact and other technologies is not likely to be easy to dislodge. The hindrance to widespread adoption attributes to users' tendency to persist with current systems, even if they are faulty or inadequate, due to cost considerations or misgivings about new technologies.

"The payment application has some operational, performance, and attitudinal issues to be managed prior to its acceptance. More over with the January, 2005 EMV deadline for Europe, much of the infrastructure has been recently upgraded or is in the process of being done so, further reducing the contactless payment potential there." In spite of hurdles, existing transit systems of certain European countries are being readied for upgrades. Many projects plan to substitute the existing system of Smart Cards and magnetic stripes in Taiwan, France, and other parts of the world with contactless Smart Cards. "Market participants would also have learnt from experience of promoting Smart Cards in various end-user markets," observes Nagarajan. "For instance, the Japanese citizen ID card program has not yielded the desired results due to concerns of security and privacy, which are vital for the success of such a huge deployment." Since they conduct a lot of business with governments, contactless Smart Cards companies will have to prepare themselves for regulations framed by governments around the world. This situation is especially pertinent to market participants in Asia Pacific, where cost considerations and politics affects even established frameworks. Regions that are most likely to benefit from political decisions are western and central Europe, where the proposed International Civil Aviation Organisation (ICAO) e-passport guidelines hold a lot of potential for the contactless Smart Cards markets

Gemplus has a Busy Month

April 2005 has been a busy time for Gemplus. Early in the month we heard about the supply of contactless chips and their personalisation for Singapore's new biometric passport. Gemplus were part of a consortium lead by NEC Solutions (Asia Pacific). Today (25th April) we heard that 1st quarter net income surged to 7.2 million euros from 300,000 euros last year in the same quarter. This was brought about by lower research and development costs and a lack of write-downs. First quarter sales were down 2.1% to 193 million euros. Industry analysts have been quick to execute the disciples citing Oberthur Card Systems which reported 1st quarter sales up by 15%. Oberthur quote their success as being due to enhanced sales in mobile phone SIM cards, while Gemplus said that their loss in sales was due to the decline in payment cards.

Also today we have been told about Gemplus's latest acquisition, Setec Oy, who have their core business in the Government sector and in particular specialise in polycarbonate films with contactless chips in ePassports. Setec were part of the NEC Solutions consortium referred to above. Gemplus will pay 30 million euros plus 19 million Gemplus shares. In addition depending on the EOY 2005 order backlog there will be an additional payment of up to another 30 million euros.Gemplus have not fared well recently but there just seems to be some hint of a revival. A shift toward 25/35% of your business in ID and security seems a pretty smart place to go.

Putting The 'I' back in ID

GEMPLUS

By Carl Norell, Marketing Communications Manager - ID & Security, Gemplus

In 2004, more than 3 years since the biggest terrorist attack in modern time, there still exists a reluctance to travel by air. All caused by potential terrorist threats and our disbelief in the aviation industry's ability to prevent similar attacks from happening again. So, post 9/11, what changes have actually been put into practice to make airports and aircrafts safer? Besides endless lines and delays as a result of escalated security and baggage checking procedures, has anything been done to tackle the root of the problem, i.e. proper verification of a passenger's true identity? Today the answer is no. Or at least we are not seeing any changes yet. People are still using the same poor means of identification in order to get on commercial aircrafts. Nevertheless, 9/11 has acted as a security wake-up call for governments all over the world, who are now recognizing the imperative need to implement stronger travel identification procedures. As a result many countries are today employing new IT infrastructures to enable more secure and reliable identification of travelers. Only when we have a trusted security infrastructure in place, assuring us that nobody with illegitimate intents can board an aircraft, can we regain our faith in the aviation industry.

Smarter identification of travelers: As it remains a fairly simple task to fraudulently obtain or create false ID cards and passports, which is generally the first step in the security protocol, governments are forced to create a much stronger means of identification. The goal must be to have a secure authentication method in place that eliminates the risk of deceitful individuals travelling under false identities, or for that matter operating within airports facilities without proper authorisation. Something standard identification methods simply cannot offer. Smart chip card technology has since 9/11 become a strong focus of interest for solving identity security issues in corporations and governments. The microprocessor chip's ability to store, protect and manage personal data, such as picture ID, fingerprints, digital certificates etc., make them unrivalled devices for hosting identity credentials, offering authentication and privacy capabilities that standard identification documents are unable to match.

As the most secure, versatile and portable identification and communication medium, Smart Cards in both contact and contactless form-factors, have emerged as the optimal solution for providing reliable identification, while at the same time securing the individual's - in this case the passenger's - privacy and integrity. Smart microprocessor chips can be applied both to ID cards and passports. For ID cards - e.g. a driver's license - a microprocessor chip is embedded in the card body, and when inserted in a reader terminal it displays and authenticates the cardholder's identity credentials. The technology can also be used in wireless mode, i.e. through a contactless chip embedded inside a passport booklet page. When presenting the e-passport to a contactless reader terminal at an immigration checkpoint, it is able to perform the very same identity checks as a contact-chip ID card.

A new generation of identity documents: So what are some of the biggest advantages of Smart Card technology compared to today's identity documents? Besides the strong security advantages, it is also a highly flexible identification tool in the sense that it enables the user to dynamically manage personal information on the card. Just like a miniature PC, the smart chip, unlike an optical or magnetic stripe device, has an operating system able to utilise key technologies such as Java Card, allowing so called "post-issuance" services. This ability to upgrade, remove and add identity data or applications in the chip allows for a much longer life-span than what is the case for standard ID cards and passports, which eventually need to be replaced due to common occurrences in life such as marriage status or change of address. Instead passengers and air travel industry employees can continue to use the ID card and/or e-passport as their identity profiles change over time, ultimately resulting in reduced costs and administrative work. Moreover, through advanced operating systems, Smart Cards are able to process data and communicate with computing devices, enabling them to perform cryptographic operations based on PKI (Public Key Infrastructure), the de-facto standard for Internet-based transactions. This capability allows an issuer to include web-based applications on the card, in both contact and contactless mode, such as e-ticketing solutions where a cardholder can purchase tickets and even do check-ins online.

Biometrics for strongest security: Besides being compatible with PKI and Java technologies, one of the strongest forms of identity authentication is achieved by combining smart card technology with biometrics. When speaking about biometrics we refer to technologies for measuring and analysing unique human body characteristics, such as fingerprints, eye retinas, voice patterns etc., especially for authentication purposes. Today biometrics represents a preferred solution for a majority of Smart Card-based identity and e-passport programmes. When used in combination with fingerprint recognition, someone's fingerprint can be stored as a template in the chip, together with other personal information including demographic data and picture ID. For example, a traveller approaching an immigration checkpoint is able to present the ID card/e-passport to a reader (contact or contactless) and have his or her fingerprint scanned. By matching the scanned fingerprint against what is stored on the smart chip, the traveller's identity is authenticated. Upon valid authentication passage is allowed. Besides preventing unauthorised entry, it also acts to reduce immigration clearance time, something that today constitutes a big problem at many international airports.

Electronic identification becoming a reality: Up till recently, the deployment of Smart Card-based ID and e-passport programmes has been limited. But today, the increasingly loud technology buzz around Smart Card technology has spawned new travel security initiatives around the world, striving to implement new standards for secure identification of passengers and personnel. As a result there are numerous travel security initiatives brewing across the globe. In the aftermath of 9/11, the U.S. Congress introduced a roadmap for migration to smart chip-based e-passports for citizens and visa waiver countries, in order to strengthen the laws and processes of border control, and ultimately enhance homeland security. To enforce the highest level of security it was recommended that such electronic passports are to use biometric identity credentials to be stored on a contactless microchip inserted inside the page of a passport booklet. By 2005 the countries and vendors involved are expected to have met the technical requirements for a system that will eventually encompass all passport holders travelling to the U.S. Moreover, in countries such as UK, Singapore and several nations in the Middle-East, governments are currently in the process of evaluating alternatives where a Smart Card-based national ID card will potentially include passport and visa functionalities. As several countries are currently deploying Smart ID Cards to their citizens, they are able to capitalise on existing IT infrastructure to add passport and visa applications to the same smart ID card. Even if some of the above mentioned initiatives are still at an early stage, mainly due to a lack of global interoperability standards, it is very clear that governments are beginning to take the necessary actions to improve travel and border control security. And one may also speculate that when implemented, these initiatives could potentially revive the trust among us travellers, giving the travel industry a much needed boost.

Not only passengers that need to be identified: Naturally the Smart Card technology can also be applied for airport and airline workers, such as cargo shippers, food service personnel, or even pilots, entering access restricted areas. It is also within these closed user groups that we can expect Smart Cards in combination with biometry technology to be implemented first. Mainly because deployment within closed user groups is more scalable and thus also more manageable than issuing and integrating Smart ID Cards and electronic passports for millions of air travellers. Some of the more mature smart ID card deployments are already taking place within the transportation industry. In the U.S. the TSA (Transportation Security Administration) is deploying its TWIC (Transportation Workers Identification Card) programme. The TWIC programme intends to issue secure ID badges based on high-capacity smart cards and biometrics to all TSA employees working within the U.S. transportation industry. Thus when fully deployed the TWIC card will have to be carried by TSA employees at airports all over the U.S. to control access to restricted areas. The TWIC programme is planned to launch selected pilots in 2004.

Moving towards a safer world: There is still much work to be done between public and private organisations in the air travel industry to ensure that security risks are minimised at all airports or travel checkpoints. However, the first steps are already being taken which is very much reflected in the many ongoing travel security initiatives. Identity verification and authentication remain at the very heart of all the aviation security infrastructures that are currently being developed, and rightly so. With Smart Card developments focused on securing our personal data and strengthening the verification through a combination of biometric technology, we have the ability to protect our most important asset - our identity.

As we're rapidly moving towards a more digitally secure world in the workplace as well as our everyday lives, we should expect technology advancements to have a similar impact when we travel. The ball is now in the corner of governments and technology vendors, and to get it rolling we need to prepare ourselves for the big task ahead. Electronic ID cards and passports are no longer a science fiction vision, but very much a reality that will soon concern citizens in all countries. Regardless of the costs and efforts it will take to get there, it is surely a small price to pay for making our world a safer place to live and travel.

UK Faces a Monumental Identity Crisis

David Porter, Head of Security and Risk, Detica

With many companies reporting soaring incidences of on-line security breaches, customers are now more at risk of becoming victims of identity fraud than ever before. The UK is facing a full-scale identity crisis. Cybercrime is costing UK businesses around £2.4bn a year as fraudsters exploit every aspect of modern technology to pull off their crimes. People are susceptible to identity scams whether shopping, banking online or even voting, as recent controversy around postal ballots has shown. If things continue on this track, then people are going to start abandoning online channels and go back to old-fashioned routes. Just as recent research has shown that the public prefers the safety of the ballot box when it comes to voting, they may also start going back to only shopping in stores and doing all their banking through their branch – even to the extent of using cheques rather than credit cards."

The UK government has recently announced that it is working with the banking industry to establish the sector as a pioneer of online authentication, which may include the introduction of an identity card. Or the UK could follow the example of the US, where the Senate has recently unveiled proposals to prevent ID theft by legally requiring companies to protect customers' personal data. What is clear is that some kind of ID checking facility needs to be implemented and fast. This does not necessarily have to be in the form of a compulsory government scheme, but could be incorporated into your existing chip & PIN card or even the chip in your mobile phone. The technology to help combat identity fraudsters is all around us, one type, for example, comes in the form of 'one time' passwords that some organisations issue to online shoppers. Whichever technology is chosen, any anti-ID fraud initiative will need to be implemented coherently, with buy-in from businesses and the public alike. The sad truth is that if something isn't done soon, then the technology that was meant to be a quick, cheap and efficient method for banks and retailers to interact with consumers is going to end up costing them dearly in terms of time and money

Events Diary

May 2005

9 - 11	Information Security Decisions - *Spring - Chicago, IL., USA*
10 - 12	International Vending Exhibition - *Earl's Court, London*
17 - 18	Labelexpo Latin America 2004 - *Sao Paulo, Brazil - http://www.icma.com/meetings/annual-expo.htm*
16 - 17	Cards Middle East 2004, *Dubai, UAE - United Arab Emirates http://www.worldofcards.biz/2005/cme/*
16 - 17	Card EX Asia 2005 - *Kuala Lumpar, Malaysia - www.cardexasia.com*
24 - 25	Security & Systems Solutions Expo - *New York, USA http://www.securityexponewyork.com/*
25 - 26	GOVSEC 2005 Government Security Expo and Conference - *Washington, D.C., USA - http://www.govsecinfo.com/*

June 2005

6 - 8	Gartner IT Security Summit - *Washington DC., USA*
15 - 16	Convention RFID - *Versailles, France - www.conventionrfid.com*
27 - 30	Smart Labels USA 2005 - *Baltimore, Maryland, USA -*

July 2005

6 - 9	Sensors Expo & Conference - *Rosemont, Illinois, USA*
17 - 18	Cards Australia 2005 - *Sydney, Australia - http://www.worldofcards.biz/2005/Cards%5Fau/*
17 - 18	RFID World Australia 2005 - *Sydney, Australia - http://www.terrapinn.com/2005/RFID_AU/*
31 - 2nd Sep	Securing 2005 - *Australia - Sydney, Australia - http://svc030.bne147v.server-web.com/events/*

New National Payment System inUzbekistan

By Mark Klummer, Head of International Communications, BGS Smartcard System AG

Mark Klummer

On the 24th of September 2004, the Cabinet of Ministers of Uzbekistan issued a resolution "On measures for the further development of the existing system of calculations based on plastic cards" which aims to stimulate the development of cashless transactions based on Smart Cards, their use in retail trade, communal and other services. An equally important goal is the reduction of off-bank money circulation. The Cabinet approved a forecasted schedule for the expansion of the DUET (Direct Universal Electronic Transactions) Smart Card system by commercial banks until 2006, developed by the Central Bank of Uzbekistan, Uzbekistan Banks' Association and commercial banks.

The Central Bank and the Association of Banks of Uzbekistan were entrusted to establish a Single National Processing Center on the basis of the Interbank Processing Center within three months. The resolution exempted commercial banks and the Single National Processing Center from payment of property tax for three years starting from 1st of January 2005. The property tax exemption applies to ATMs, terminals, and other hard- and software required to establish the necessary Smart Card payment infrastructure.

The banks were also freed from payment of custom duties (except for custom registration fees) when importing plastic cards, materials, equipment of graphic and electronic personalisation, terminals, ATMs and other equipment and software used to carry out payments with plastic cards until 1st of January 2007. Commercial banks/card issuers, were ordered to establish terminals for accepting payments in all branches, mini banks and savings' banks by 1st of January 2005. As a further measure, commercial banks should also issue soft credits (at a rate of 50% of the Central Bank's refinancing rate [18% as of 24 September]) to enable the financing of the required terminal equipment for retail, trade and service organisations that lack the necessary means of investment.

The beginning of the "Smart Card-era" of Uzbekistan goes back to 1995. At this time the two largest financial institutions of the country (The National Bank of Foreign Trade and the Savings Bank) were confronted with serious problems in the processing and handling of clearing transactions. The existing methods proves to be outdated and inefficient - a technology shift was overdue. The DUET Smart Card system seemed to be the right choice as it not only provides retail payments based on Smart Cards but every kind of funds transfer in a very secure way throughout all levels of the front- and back office.

Today, the national DUET interbank payment system includes 18 of 33 banks in Uzbekistan out of which 7 have already been part of the interbank payment system based on DUET technology. Until the end of 2004, 500 000 cards and about 4.500 POS-terminals have been delivered to the 18 banks of Uzbekistan that are part of the National Interbank payment system. According to the forecasted schedule for the expansion of the DUET Smart Card system approved by the Cabinet, 3 million Smart Cards and 10 000 terminals shall be issued until the end of 2006.

Security - What Next?

By Dr.David Everett, Cheif Executive Officer, Smart Card Group Ltd

Dr.David Everett

People often ask me what is going to be the next major security problem. After all the attacks on Smart Cards, SPA (Simple Power Analysis), DPA (Differential Power Analysis), and all those things where should we turn our attention? The thing is that really the Smart Card has become a commodity, a well-engineered modern Smart Card is economically infeasible to break.

Nothing is impossible and given the right amount of time, knowledge, tools and engineering skills, yes it would be possible to reverse engineer the Smart Card chip. But this is way past the resources of the back bedroom hacker, in fact it's probably past the resources of a single university. Large efforts of collusion may be possible but I subscribe to the view that the authorities funding such organisations would never countenance an attack upon some commercial Smart Card scheme. The legal ramifications would be horrendous.

Cryptography has become a utility, well designed algorithms, mechanisms and protocols fall into the same category as the chip. There will be advances such as the recent discoveries on the SHA-1 hash algorithm but really this has no commercial significance. The inherent structure in transaction protocols severely restricts the impact of such developments. Arguments continue on the relative security of symmetric (e.g. DES) and asymmetric (e.g. RSA) algorithms often missing the point that the attacks invariably surround the key management architecture. If you are trying to establish a global security scheme then the key initialisation is your major problem. Public key cryptographic algorithms excel in this area and no matter what you might think of quantum cryptography the key initialisation problem still remains. Of course we shouldn't leave out quantum computing the supposed end of cryptography, as we know it today. Well in the first place the vulnerability is against the asymmetric algorithms where the work function to attack is based on a low order polynomial (e.g. factorisation to attack RSA). The symmetric algorithms are more resilient where key exhaustion is the attack profile. But then we have to assess the significance of this threat, is it likely in the next ten or fifteen years? No, not even in the eyes of the most ardent enthusiasts and even then is it likely to be a commercially viable attack? Not in the foreseeable future at least on the grounds previously stated.

This is where we come to FUD (Fear, Uncertainty, and Doubt), its just too easy to play these games not least because our human nature makes us very susceptible to such concepts. You hear lots of talk of snake oil salesmen from the hallowed chambers of academia but you can turn it around that many such people are creating FUD on totally unrealistic grounds. The real threat today and its always been with us but just getting worse is Identity Theft (IF). This week in the papers we heard about Sonia Radencovich who worked for TIAA-CREF, the massive American pension fund for teachers and professors. Background checks on Sonia failed to reveal, amongst other things, a four year prison sentence for her role in a large financial scam. She was apparently due to start her sentence a few months after she started at TIAA-CREF. Her background went undetected for several months while she had access to customer data (although there is no evidence that she misused the data). She only got caught because she brought in her laptop to download information, a breach of the company's security policy.

This is but just one recent example of many that we read in the press every day. We've all heard the stories. In fact this problem really comes down to access control, both physical and logical. Its something that we know we can do, the technology is there, the procedures are known, yet they are so rarely exercised. Next time you walk in to the head office of a large corporate, have a look around and just work out how easy it would be to wander around unchallenged, perhaps even to sit down at somebody's PC over lunch! A few years ago in Japan we visited a data processing facility, which used a security guard to restrict physical access to the building. The guard was so courteous and polite greeting every visitor no matter who they were with a humble bow. We commented to management that perhaps the security should be increased to ensure that unwanted visitors were restricted. Next morning we were greeted by two security guards who managed to be even more courteous with their bows. 'It's not what you do it's the way that you do it', perhaps this should be the new corporate signature tune!

The Ongoing Expansion of the RFID Market

By IDTechEx based on their "RFID Forecasts, Players & Opportnities 2005- 2015" Report

This year's global market for RFID including tags, systems and services is 1.94 billion US dollars but it will be driven by demand and new laws to 26.90 billion US dollars in 2015. 1.8 billion RFID tags have been sold this year alone. Key volume applications for RFID technology have been in markets such as access cards for the financial, security and safety markets, or for the automotive and passenger transport sector, with smaller markets in leisure, libraries, laundry and healthcare. Below are the figure for the cumulative global sales of RFID active vs Passive tags to the end of 2004

SALES *(BILLIONS)*		
Passive	410	Car Clickers
Active	1390	Cards

Source: IDTechEx

Another way of looking at the sales of RFID tags is to consider those that have a battery in them, called 'active tags' versus those without a battery, called 'passive tags'. This is split as follows. Most of the active tags have a coin cell battery in them, otherwise called a button battery, and are not exactly suitable for reel-to-reel production.

The future is very different from the past. Research carried out by IDTechEx reveals rapid growth in RFID. The following table shows the IDTechEx projection for global RFID tag sales growth up to 2015.

NUMBER *(Billions)*	2005	2010	2015
Item	0.5	27.0	1,000.0
Pallet/Case	0.6	30.0	35.0
Other	0.4	5.7	12.5
Total	1.5	62.7	1,047.5

Source: IDTechEx

After addressing technical problems with UHF, 3.1 billion tags will be used for pallets and cases in 2006. Item level tagging (especially by pharmaceuticals) and tagging of baggage, animals, books, tickets and other non retail markets are strongly growing in value - in 2008 6.8 billion tags will be sold for such applications and 15.3 billion tags for pallets/cases, but the former tag value will be higher than that for pallets/cases. The market for RFID interrogators will reach 1.14 billion dollars in 2008 for EPC interrogators and 0.75 billion US dollars in the same year for other interrogators, such as Near Field Communication interrogators. Forecasts by territorial region show that by 2010, 48% of RFID tags by numbers will be sold in East Asia, followed by 32% to North America. Deliveries and orders in 2004 were sharply up on the year before. Even if one wrongly considers the RFID tag to be nothing more than a barcode replacement then such figures are not necessarily unrealistic, because there are somewhere between five and ten trillion barcodes printed in the world every year. However, these tags will not reach the ten trillion level before 2020 at the very earliest, where they will need to cost less than one US cent and be entirely printed, like a barcode is today. The curves do not extrapolate up and up.

The research showed that the highest volume applications of RFID will mimic barcodes where a market for barcode labels grew then declined as barcodes were printed directly onto products and packaging. The value of that label market peaked before the annual numbers sold reached a peak. That was because of strong price erosion.

IDTechEx sees the same occurring with RFID but on long timescales and with one difference. The printed radio barcodes will not use the same ink as the graphic printing in contrast to directly printed barcodes today. There will be a growing and lucrative market for electronic inks used to print RFID tags onto labels and directly onto products and packaging. IDTechEx estimates these timescales and volumes.

IDTechEx doubt that the necessary one cent tags needed for tagging everything in the supermarket - the largest volume potential for RFID - will be profitably achieved with silicon chips within ten years if ever. It believes that giants such as IBM, Xerox, Dai Nippon Printing and Samsung that are developing "chipless" alternatives such as polymer transistor circuits and Surface Acoustic Wave SAW devices may be on a better tack for the long term. Five cent chip tags seen as a certainty Chip tags are certain to get down to five cents as orders approaching ten billion tags are placed. Chip tags can also address enormous secondary markets, even if Consumer Packaged Goods (potential trillions yearly), postal packages (potential 650 billion yearly) and books at manufacture (50 billion yearly) mainly take one cent and sub one cent chipless tags in due course.

Several chip manufacturers have approached IDTechEx saying that they have zero interest in producing the required sub one cent chips for five cent RFID tags but they do seek less price sensitive, more sophisticated large niche markets in RFID. The new report gives great detail on these. Such opportunities run into at least tens of billions of tags yearly and disproportionately large sums on infrastructure and services. The large niches are often new RFID markets coming from nowhere, not extrapolations of past trends. They include:

- The South Korean Ubiquitous Sensor Networks USN projects backed by the South Korean government for monitoring natural disasters and for many other uses
- The tagging all patients, staff and assets in healthcare facilities worldwide for error prevention and other reasons
- Antiterrorism measures in global logistics
- Meat and livestock tagging in the face of new legislation against disease
- Tagging of high value banknotes and drugs for anticounterfeiting

Timelines are given for all of these. Many examples of legal push are examined such as the probable tagging of one billion tires yearly with embedded RFID devices that also sense pressure.

IDTechEx believes that item level tagging, particularly of drugs, will rival the output of pallet and case tagging in 2005 despite the hype about the latter programs. With the world's leading companies such as Hewlett Packard, IBM and Samsung working on the UHF problems, they will be solved but any forecaster must reflect the fact that Gillette and others see the physics being so tough that they must redesign the geometry and materials of a significant percentage of their cases and their contents to make them "UHF" friendly while the systems are being optimised. Such nuclear options are neither cheap nor rapid.

By contrast, Pfizer, GlaxoSmithKline and other major pharmaceutical companies have decided to start tagging certain products on a permanent basis in 2005. They are not all hooked on UHF and some favour the more proven 13.56MHz waveband used with almost all item level tagging and contactless Smart Cards to date - about one billion items out there and working well. The range of UHF is rarely needed at item level. Indeed DHL has ordered its first million tags for postal packages and they work at 13.56 MHz.

In such a frenzy of success and failure, forecasting is a risky business. Who predicted that only modest quantities of pallets and cases would be tagged in 2004 but orders for over 150 million RFID air baggage tags would be placed? Who in the West noticed that 50 million RFID tickets were delivered against just one order in Japan? It will be interesting to see if IDTechEx has picked up once again more of what is really going on and has produced more useful forecasts in this notoriously changeable field.

The New Look CTST

By Jason Smith, Production Editor, Smart Card News Ltd

CardTechSecurTech 2005

With a new look and under the banner of a new logo, CardTech/SecurTech Annual Conference and Exhibition opened its doors on the 12th April 2005 in Mandalay Bay Convention Center in Las Vega, USA. In its 15th year and 175 exhibitors on show, the conference offered an exciting new look at two "core competencies" that have always been at the foundation of the event: Security and Transactions.

The event was opened by the Card Technology Breakthrough Awards Presentation which recognised the leading technologies and individual achievements of 2004. In this ceremony Axalto received the "Breakthrough Award for Innovation", which recognises the biggest advance in Smart Card technology in 2004.

The award was presented to Axalto for its Network Card technology, which allows Smart Cards to be used directly by Internet-based applications without the use of card readers or software drivers on the PC. The Network Card technology makes the development and implementation of Smart Card applications easier.

Axalto's research director Bertrand du Castel also picked up the Visionary award for leading the team that developed the Java Card software for Smart Cards nearly a decade ago and he is still playing a key leading role in several other important Smart Card advances. Some of his current achievements are working on Smart Cards that communicate via Internet protocols, that work easily with Microsoft's .Net Internet architecture and that can authenticate users to Wi-Fi wireless networks.

Richard Clarke

This ceremony was then followed by a Keynote Speech by Richard A. Clarke Former Counterterrorism Czar and Author of *"Against All Enemies"*. Long known as one of the hardliners against terrorists, Richard Clarke served three presidents as a senior White House advisor. Presentations and workshops throughout CTST covered areas such as Smart Cards, EMV, contactless/RFID technology, transaction technology, transportation, POS technology, mobile phones, near field communications, ID theft, loyalty, and biometrics.

These presentations and workshops included some of the industries senior specialists including Randy Vanderhoof, Executive Director, Smart Card Alliance; Kush Wadhwa, Director, International Biometric Group; Ohad Bashan, President and CEO, OTI America; Patrick Gauthier, Senior VP, Visa USA and Nick Holland, Director of the Emerging Technologies Advisory Service, Mercator Advisory Group. As expected all the big industry names, like Gemplus, Orga, Axalto, Giesecke & Devrient, Philips, Visa, Mastercard and Infineon Technologies to name but a few, where exhibiting their current and latest products.

Oberthur Card Systems, was demonstrating the industry's first Homeland Security Presidential Directive 12 (HSPD-12) compliant ID Smart Card solution called TotalIDOne.

The new system ensures government agencies are compliant with the HSPD-12, which requires a common identity and credentialing standard for physical and logical access for all federal employees and contractors. The FIPS 201 standard, developed by the National Institute of Standards and Technology (NIST), sets the technology and implementation guidelines for identity cards utilized by federal government employees and contractors as required by HSPD-12.

Cross Match Technologies also demonstrated an open architecture biometric solution in response to the new HSPD-12. In response to the requirements outlined in the FIPS 201 for Personal Identity Verification (PIV). Cross Match demonstrated they could provide federal agencies and systems integrators with interoperable products and solutions to help the government check the backgrounds of federal employees and equip them with standardised biometric ID badges.

Also in response to HSPD-12 and FIPS 201, ACI Worldwide and MULTOS were jointly demonstrating a secure chip issuing and management solution. Answering the International Civil Aviation Organization (ICAO) call for governments to adopt a chip-enabled infrastructure, Smart Chip Manager will enable users to leverage smart chip schemes such as e-Passports or national ID cards.

Viisage president and chief executive officer Bernard Bailey did a presentation on *"Evaluating Credential Types; Cards, Biometrics and More."* , and Dr. Mohamed Lazzouni, chief technology officer presented a speech on *"Biometric Technology in the Pakistan E-Passport Project."* During which time Viisage conducted demonstrations on their capabilities to support identity proofing, registration and issuance process for smart credentials defined by the FIPS 201 standard. Datacard Group had on show their new Datacard RP90 card printer that allows government agencies to print on highly secure non-PVC card surfaces, including contact and contactless Smart Cards. The RP90 card printer prints directly on retransfer film that is then adhered to the card surface, producing high quality, edge-to-edge photo ID cards in less than 30 seconds.

Precise Biometrics AB presented itself as the first company in the world a offer a complete multibiometric Match-on-Card solution. This multi-biometric Match-on-Card solution was the result of a partnership with Iridian Technologies, OmniPerception and Sharp. This new solution enables storage and matching of fingerprints, irises and faces directly on a Smart Card with a common application interface.

Giesecke & Devrient (G&D) and Wave Systems Corporation announced that they had formed a strategic alliance to offer an enhanced security solution to address the trusted computing market. In the IT sector, high complexity and a wide spectrum of applications are boosting the demand for security solutions among private users and businesses alike. The challenge is to devise comprehensive solutions that can satisfy customers' security needs. Increasingly, what are known as Trusted Platform Modules (TPM) are being incorporated into personal computers for a more trustworthy computing environment. G&D and Wave Systems stated that they had formed this strategic alliance to market a comprehensive security solution that integrates both components.

Digital Defense Group unveiled and demonstrated a completely self-contained, wireless, biometric security device that grants secure building and computer access through the use of a fingerprint, without compromising a user's biometric privacy during enrollment or authentication, called the Factor4 biocard, Factor4 and a related product, IronGate , scheduled for release later this year, are the first such biometric security access products to take the form of a credit card. They feature a self-enrollment process whereby a user's unique biometric signature is generated based upon minutiae points of the fingerprint itself. Both the Factor4 and IronGate models are interoperable and compatible with HID 125 KHz interfaces and MiFare 13.56 MHz, supporting the 14443 Type "A" parts 2, 3, and 4, as well as the newer PayPass ISO/TEC 14443 contactless payment card system adopted by MasterCard and Visa.

During the conference Visa U.S.A. and MasterCard International announced major U.S. credit and debit card issuers have plans in motion to roll out significant numbers of contactless Smart Cards this year. However the two companies where keeping tight-lipped when it came to actually revealing which card issuers they where referring too. American Express also announced plans to issue, as of June 1st, a contactless chip in their Blue card, allowing them to use American Express's ExpressPay for contactless purchasing. In other contactless news from the conference ASK has released SafeID, which is a new contactless reader for passports and visas with a speed of 424 kilobits per second.