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Smart Card News

Smart Cards, SIM, Biometrics, NFC and RFID

www.smartcard.co.uk

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This Month's Lead Story

New E-Healthcare Cards for French Patients

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Dear Subscribers,

I have just read somewhere that there are at least 1500 innocent people in the UK who's personal details are wrongly held by the Criminal Justice System, and this is the government that wants to bring in a National Identity Register! Can we trust the Authorities to get it right?

In Nigeria young computer literate people are being set up in Internet cafes to trawl the Net looking for Credit Card numbers and other nefarious activities. The worry here is that the Authorities in Nigeria do not have the knowledge or expertise to clamp down on these fraudulent activities as I doubt do we, look at Shell UK, they have had to revert back to signature verification of credit card transactions after it was discovered that modified PIN verification terminals, which could capture PIN numbers, had been installed at some of their premises. This bears out what David Everett has been saying for years about the lack of security in the terminal. More on Chip and PIN security in this month's Newsletter.

And what about the National ID Card project? Well with all the problems at the Home Office with John Reid now holding, the ministerial banner seems to have put everything on hold. Latest rumours suggest the start of the OJEU process moving out to September with the PQQ (Pre-Qualification Questionnaire) coming somewhat later. If you were the slightest bit cynical you might think the whole process could vanish into an extension of the ePassport project. I doubt such ramifications have been lost on Siemens Business Systems, the current incumbent.

I hope you are all enjoying the World Cup in Germany, there's a prize for the first person to spot a Smart Card in operation which is just a little distraction should you become frustrated with the football.

New E-Healthcare Cards for French Patients

GIE Sesam Vitale has announced they plan to issue a new generation of French patient e-Healthcare cards, known as "Vitale 2" which will replace the existing cards, rolled out in 1998. SESAM-Vitale is one of the largest e-Healthcare schemes, processing over 80 million electronic claims per month. The new Smart Cards will hopefully further enhance the possibilities of the system, in terms of data processing and secure applications.

Axalto, Gemplus International and Oberthur Card Systems have all been selected by GIE Sesam Vitale to provide these new cards as part of France's move to renew the 53 million Vitale 1 cards currently in circulation. Gemplus and Axalto will supply at least 8 million cards each over two years, with a possible extension over two more years. However the number of cards Oberthur are to supply to GIE Sesam Vitale has not yet been disclosed. The scope of these contracts includes the supply of Smart Cards, graphical and electrical personalisation and mailing services to millions of end users in France.

"Gemplus has a long established presence in the French healthcare market on Patient Smart Cards, Personalisation services, European Healthcare cards and Healthcare readers", stated Jacques Seneca, President Gemplus, Europe Middle East & Africa. "Local card production and personalisation services linked with worldwide e-healthcare Smart Card and personalisation experience helped us meet GIE SESAM-Vitale's requirements in this new program."

"Axalto has been a key partner of the French healthcare industry since the Vitale 1 card and the Health Professionals' Cards were rolled out in 1998. At the time, France was the first country in the world to implement such a convenient, sophisticated healthcare management system, and Axalto is a primary supplier of GIE Sesam Vitale. With Vitale 2, Axalto is proud to be involved once again in modernising the French healthcare system - one that is envied by many nations worldwide," commented Philippe Cambriel, president EMEA, Axalto.

A spokesman from GIE Sesam-Vitale said that a new card is necessary because optional insurance plans are joining the Sesam-Vitale system, and the current version of the card is not upgradeable to accommodate all those changes. The Vitale 2 Cards will have 32 kilobytes of memory and a crypto-processor chip, which is more sophisticated than the 4K memory chip on the current card.

Overall diagram of the SESAM-Vitale system

"Thanks to PKI functions and security protocols, the new generation of cards will ensure that personal data is accessed only after explicit patient authorisation both on the card and in a remote location. The new card is fitted with digital signature functions that are in line with Identification, Authentication and electronic Signature (IAS) recommendations for European Citizen Cards, making it future-proof," said an Axalto spokesman. The cards will also feature an electronic prescription function which allows patients to pick up prescriptions from their pharmacists using their Vitale 2 Card, as the information for their prescription will be stored on it.

The introduction of the Vitale 2 Card will hopefully further aid the administrative process associated with healthcare reimbursement and make healthcare data management even more secure throughout France.

Smart Cards

The Dawning of Gemalto

Gemplus and Axalto have finally offically merged to become Gemalto. Both comapnies have worked together since the merger announcement in December 2005 to develop a detailed, structured program to allow a rapid and efficient integration process. In particular, the companies are now ready to operate immediately under a single brand. They have defined a joint customer-facing sales team and already elaborated a "go-to-market" strategy aiming to minimise possible sales attrition.

The formation of Gemalto has created a new world leader in digital security, with 2005 pro forma revenues of approximately 1.7 billion euros ($2.2 billion), operations in 120 countries, large operational centers in the Paris and Marseille areas, and 11,000 employees including 1,500 R&D engineers.

Life Beyond SIM in Brazil

The Industrial Automation & Electronics Group at Frost & Sullivan has announced that the Brazilian Smart Card market showed a record development in 2005, mainly sustained by its high percentage of microcontrollers. Now, key applications in addition to the SIM cards are expected to boost the market's growth. "With a population of over 180 million in line with sustainable economic growth, the country offers numerous logistical challenges and unique opportunities for the Smart Card industry," notes Frost & Sullivan research analyst Alejandra P. Etcharran. "Main examples of this are the introduction of high-end SIM cards, EMV cards' expansion into the banking and payment market segments, as well as the promise of smart identification into the largest country in Latin America. This allows key market participants to offer value added services while assuring long term revenues."

12 Million Thai Smart Cards

The first batch of Thailand's 12 million electronic identity Smart Cards, are expected to be issued to Thai nationals by September. Caretaker Deputy Prime Minister and Information and Communication Technology (ICT) Minister Suchai Charoenratanakul has received confirmation by the Ministry of Interior that the ministry's management of the first 12 million "Smart Cards" would be completed by September.

### New Oyster Deal for London

A deal that will help London's rail passengers get the full benefit of Oyster cards and lay the foundations for a nationally accepted Smart Card ticketing scheme has been struck. The details of the announcement were set out by the new Transport Secretary, Douglas Alexander and London Mayor Ken Livingstone. Transport for London has agreed to pay for Oyster validation equipment to be provided for all London rail stations in Zones 1 - 6. It is a significant breakthrough that offers train companies the opportunity to accept Oyster pay-as-you go products on their services. Transport for London has also agreed to work with the Department for Transport to ensure that all Oyster equipment is capable of accepting other Smart Cards. These are currently under development for use on public transport across the country by the Integrated Ticketing Smart Card Organisation (ITSO). This is a further step towards the wider introduction of smart ticketing technology outside of London.

A$1.1 Billion for Oz Access Card

Smart Cards in Australia appear to be big news at the moment. In the April edition of Smart Card News we wrote an article about the planned roll out of an Australian health and welfare card. We questioned whether this new card was actually a national ID card masquerading as a access card for welfare. Now Smart Card News has found out that the Australian federal government, in their 2006-07 Federal Budget, has committed A$1.1 billion of funding to the Smart Card System project. The welfare cards will start to be phased in from 2008, replacing 17 different health and social services cards and will hold limited personal information such as name and signature while a microchip will store a digital image of the card holder as well as their address, date of birth and details of family.

Secure Healthcare Card for Mexico

Gemplus has delivered 3.7 million smart healthcare cards to Seguro Popular, one of the Mexican government's social security organisations. These cards will be at the front-end of a new country-wide e-healthcare program aimed at securely storing patient information, ensuring citizens get the correct healthcare benefits and reducing paper-based administration. The new social security cards will be distributed to those covered by the Seguro Popular healthcare scheme.

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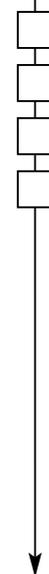
Smart Cards for Mozambique

The Malaysian government has pledged to help the Mozambican authorities develop a Smart Card, which will allow Mozambican citizens to have all their key documentation on the same electronic card. To this end, Mozambique's Minister of Science and Technology, Venancio Massingue, signed an agreement with the Malaysian Deputy Minister of Science, Technology and Innovation, Dato Kong Cho Ha. "Once the Smart Card strategy is implemented, any Mozambican can have documents such as his identity card, passport and driving licence, among others, on the same card", said Massingue.

Smart Cards for Qatar National ID

Axalto is contributing to the Qatar national ID program with the delivery of fingerprint match-on cards, associated readers and services. Qatari citizens will use these high-end cards, combining a built-in biometrics feature, contact and contactless technologies as their national ID document as of the first quarter of 2007. This card will serve as the official ID document for Qatari citizens aged above 16, as well as foreign residents. In addition to the personal data available in usual ID documents (such as name, birth date, address etc), the microprocessor will also store the person's fingerprint.

First PayPass Pilot in Australia

Gemplus has announced its involvement in Australia's first MasterCard PayPass pilot program, where Commonwealth Bank of Australia's (CBA) cardholders will simply place their card in front of the terminal to make a payment. The six-month trial will be rolled out in New South Wales, with the first phase involving 33,000 CBA cardholders who will be able to use their MasterCard PayPass cards at more than 150 participating merchants. Shops include fast food restaurants and convenience stores for payments under A$35. Gemplus provided the GemInstant cards for this project.

One Billion Smart Cards for Europe

Renesas Technology Europe has shipped its one billionth Smart Card IC to manufacturers in Europe. The devices are all microprocessor-based chips that are used in a range of Smart Card applications, including mobile SIM, banking, government and ID cards. Based on a recent IMS Research report, the company is the world's number two Smart Card IC manufacturer.

Middle Eastern National ID Card

LaserCard Corporation has announced the first $1.4 million purchase order under an approximately $11 million contract for both the supply of personalised secure national ID cards to a Middle Eastern government and the supply, installation and support of associated card personalisation equipment, consumables and software. The cards are being issued to adult citizens for national identity purposes by the government of the Middle Eastern nation.

Africa's First OneSmart Pilot

MasterCard International and Standard Bank has announced the launch of the pilot of OneSmart MasterCard PayPass at Standard Bank's head office campus in Johannesburg, South Africa. During the pilot, Standard Bank employees can simply tap their PayPass card on specially equipped terminals at retail outlets at Standard Bank's campus shopping complex, as well as at all PayPass-enabled merchants worldwide to make a transaction.

Navigo Cards Replace Carte Orange

ASK has confirmed that Navigo travel cards using their contactless technology have replaced the paper-based Carte Orange for weekly and monthly travel within the Paris area of France. The Navigo pass is already used by more than 1.5 million Intégrale or Imagine annual travel card subscribers, and the new system is endorsed by the RATP, the SNCF and 93 private operators. The new Navigo card is a dual interface (contact/contactless) microprocessor card, a descendant of the early Francile card, which ASK was already supplying to the RATP in 1998.

Oi Brazil Now Provide 128KB SIMs

Oi, the mobile wing of the Brazilian Telemar Telecoms Group, is delivering Gemplus 128KB SIM cards to all new customers in their Brazilian GSM network. This SIM offers new applications and content that optimise mobile phone use and promote Oi's products and services including city guides, news, stock quotes, messaging, private data storage and phonebook synchronisation and back-up. Existing customers can also benefit from many of these services including phonebook back-up, through remote SIM card updates. The SIM can be updated by an OTA platform ensuring the services are always in tune with their customers' needs.

Wibro Card for Korean Broadband

KT and Axalto has announced the successful launch of the world's first commercial Wibro UICC card, which will enable subscribers to connect to the Korean wireless broadband mobile WiMax service.

200% Growth in Latin America

ICC Solutions expects its operations in Latin America to grow 200% this year, according to the company's customer relations director Wendy Maisey. Maisey bases the growth forecast on the increasing implementation of EMV cards -credit cards with an embedded chip - expected in Latin America. "VISA alone has over 15 million EMV cards issued and they forecast that they will continue to issue. Countries like Peru, Chile, Venezuela, El Salvador, Costa Rica, Guatemala, Panama and Paraguay are in the early stages of chip migration and issuing. We will find generally that countries will start to buy our tools 3-5 years before chip implantation," she said. Today, ICC's Latin American operations represent around 5% of its global revenues.

Unattended Chip and PIN Terminals

Cubic has completed one of the first unattended Chip and PIN terminal networks in the UK. The network of unattended units on the Underground and some Docklands Light Railway (DLR) stations throughout London's Oyster card transport system enable Transport for London's (TfL) customers to purchase travel tickets with debit or credit cards using Chip and PIN technology, without the need for a staff member to be present. The unattended payment devices have now been installed in 491 passenger operated ticket machines.

In addition to completing the unattended network, Cubic also carried out a wider program of upgrading terminals across the TfL network. This included installing 600 PIN Entry Devices (PEDs) on ticket office machines at all 275 ticket offices in Tube stations. The PEDs are similar to those found in any retail setting, but the specification is designed to withstand the rugged transport environment. The hardware and software used in the development and implementation of Chip and PIN technology on the Underground and DLR stations is a combination of existing Cubic supplied devices and hardware and software provided by Dione and the Logic Group.

Acquisitions

e-Secure Acquires e-Systems

e-Secure Technologies has acquired the assets and ongoing business operations of e-Systems. The purchase of the Hong Kong based operation brings complementary new products to the e-Secure Technologies portfolio, significantly enhancing its ability to pursue growth opportunities in the card market.

VASCO Buys Logico Smart Card

VASCO Data Security International, Inc has acquired Logico Smart Card Solutions of Vienna, Austria. VASCO acquired all of the stock of Logico, in exchange for cash considerations totalling 1.14 million euros (approximately $1.5 million). The acquisition was financed completely with VASCO's cash and is expected to be slightly dilutive in fiscal 2006.

OTI Acquires InSeal SAS

On Track Innovations Ltd, (OTI) has acquired 100% of InSeal SAS share capital for an aggregate of 243,800 of its ordinary shares and 180,000 warrants. The warrants, which have a nominal exercise price, become exercisable in four equal annual installments.

HID to Acquire Fargo Electronics

Fargo Electronics, Inc has announced that its board has voted unanimously to enter into a definitive merger agreement to be acquired by ASSA ABLOY'S HID Global Corporation in exchange for an all-cash consideration of $25.50 per share. The transaction is expected to close at the end of the third quarter, subject to stockholder and regulatory approval. The offer is not subject to any financing contingency. The acquisition is a result of a long-standing relationship between the two security solutions companies and their decision to jointly pursue opportunities in the secure identification field.

ASSA ABLOY Acquires S&P

ASSA ABLOY ITG (ITG) has announced the acquisition of Austrian-based Schwab & Partner Group (S&P), a European manufacturer of contactless cards. The Schwab & Partner Group, which consists of the three companies CPC, VisionCard and Schwab & Partner, serves mainly the Central European mass transit, loyalty, event ticketing, ski pass, hospitality and access control markets. S&P is based in Innsbruck and employs 80 people.

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With the acquisition of the Schwab & Partner Group, ITG will strengthen its position and offering in the above-mentioned markets. S&P boasts card design, printing and manufacturing capabilities.

Ingenico Buys Swiss Subsidiary

Ingenico has acquired the remaining 49% of its Swiss subsidiary XA, a company in which it held a 51% interest. This buyout is a reflection of the Group's overall strategy of consolidating leadership on its target markets. After acquiring an initial 51% stake on February 22, 2005, Ingenico has now moved on to full ownership. The aim of this move is to accelerate the Group's growth on this high-value market and to win sizeable market share quickly by capitalising on the EMV migration process under way.

Europay, MasterCard & Visa

EMV Solution For Saudi Arabian Bank

Bell ID and Aconite have joined forces to provide a full EMV migration solution to one of the top banks in Saudi Arabia. The solution completes the link between traditional card management systems and authorisation hosts, facilitating the issuance of millions of EMV-compliant MULTOS cards and providing a platform for post-issuance EMV scripting as well as the issuance and management of multi-application Smart Cards.

Pay in Your Own Language

Ingenico has announced that their terminal now offers cardholders the possibility of paying in their own language with (Dynamic Language Conversion). Ingenico proposes an automatic language selection application for its EMV payment terminals which makes it easier for customers to buy things abroad and enables shopkeepers to offer an additional service to their international customers. The DLC application uses data stored on the bankcard's chip to identify its holder's country of origin and therefore his/her language. The application thus automatically displays the standard payment help messages on the Ingenico terminal screen in the holder's language.

E-Payments for Ethiopeans

ACI Worldwide has enabled the deployment of VISA-certified, EMV-compliant debit and credit cards on behalf of Dashen Bank, the largest private bank in Ethiopia.

The initial rollout of Point of Sales (POS) and ATMs will mark an industry first in the east African countries. The rollout will be supported by ACI software including BASE24, ACI Card Management System and ACI Smart Chip Manager. Dashen Bank, ACI, VISA and HP will be marking the occasion with a joint launch party to be attended by His Excellency Mr. Neway Kristos Gebreabe Special Economic advisor to the Prime Minister and Board Chairman of the National Bank of Ethiopia. ACI's flagship BASE24 software will be used by Dashen Bank to authorise, route and switch both ATM and POS transactions across its network. ACI has enabled Dashen Bank to support all card types including credit, debit (chip and magnetic stripe) and allows the bank to interface with global card networks.
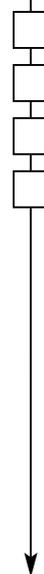
Biometrics

Biometrics to Shake Up Retail

LogicaCMG has warned European retail banks to assess the competitive advantage of introducing biometrics or risk being left behind. Consumer research commissioned by LogicaCMG and conducted by Vanson Bourne across seven European countries revealed that the introduction of biometrics could lead to much greater consumer confidence in switching between different bank accounts and other financial products.

The financial services industry has made huge advances in fraud prevention, such as implementing Chip & PIN cards, but fear of fraudulent applications and account takeover mean that consumers are still not entirely comfortable with the measures taken by their banks. The research found that on average, 57% of people would be more likely to change their current account provider if all it took was an identity card and fingerprint to establish and prove identity.

In Germany this average increases to 64%, almost two thirds of the population. 27% of Europeans would be more likely to change their insurance providers and 25% would switch savings account providers. Just over 1 in 5 (21%) Europeans would be more likely to start a pension and 17% said they would be more likely to switch mortgage providers. Broken down by age, 18-24 year olds are most likely to switch their current account or start a pension (61% and 26% respectively), whilst 25-34 year olds are most likely to switch mortgage providers and insurance (21% and 30% respectively).

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Biometric ID for Filipino Seamen

The government of the Philippines will start issuing biometric identification cards (ID) to Filipino seafarers by the middle of this year. The ID, the seafarer's equivalent of a passport, was adopted under Convention No. 185 of the International Labour Organisation as protection to about 1.2 million maritime workers amid the rise in international terrorism. Almost a quarter or about 250,000 of deployed seafarers all over the world are Filipinos.

Match-On-Card for Qatar ID Card

Precise Biometrics AB has been selected by Axalto to provide its technology for the national ID cards program in Qatar. The project involves licenses for Precise Match-on-Card technology, which will be integrated in the national ID Smart Card.

Financial

Saflink Loses $36.8M in Q1

Saflink Corporation has reported its revenue for the first quarter of 2006 was $857,000, compared to $768,000 for the fourth quarter of 2005, and $2.2 million for the first quarter of 2005. Saflink reported a net loss attributable to common stockholders of $36.8 million, for the first quarter of 2006, which included non-cash charges of $29.7 million related to the impairment of goodwill and $509,000 for the modification of outstanding warrants.

NDS Reports 3Q Results

NDS Group plc (NDS) has announced its revenue for the three months ended March 31, 2006 was $149.2 million, an increase of 18% compared to 2005. For the nine months ended March 31, 2006, revenues increased by 9% to $445.9 million. NDS reported a sale of 64 million active digital TV Smart Cards. Conditional access revenue increased in the three months ended March 31, 2006 due to higher security fees as the number of authorised cards using NDS technologies increased and higher deliveries of Smart Cards. For the nine months ended March 31, 2006, higher security fees were offset in part by a reduction in Smart Card sales reflecting the fact that shipments in the prior year were exceptionally high, principally due to demand from Sky Italia, which in fiscal 2005 completed the migration of all its subscribers to NDS technology.

ActivIdentity Reports 2Q Results

ActivIdentity Corporation has announced its revenue for the quarter was in line with guidance at $11.1 million compared to $9.2 million for the quarter ended March 31, 2005, and $11.5 million for the previous quarter ended December 31, 2005. Total gross margin for the three months ended March 31, 2006 was 59% compared to 13% for the quarter ended March 31, 2005 and 62% for the previous quarter ended December 31, 2005. Net loss for the quarter ended March 31, 2006, was $8.3 million compared to $25.4 million for the three months ended March 31, 2005.

SCM Reports Q1 Results

SCM Microsystems has announced its revenues from continuing operations in the first quarter of 2006 were $7.4 million, up 10% from revenues of $6.7 million in the first quarter of 2005. By product segment, first quarter 2006 revenues included $4.5 million from sales of Smart Card readers and other products for secure network and physical access, and $2.9 million from sales of OEM digital media reader technology. Gross margin in the first quarter of 2006 was 36% and included $0.1 million of costs related to the closure of the company's Singapore manufacturing facility.

Lipman Reports 1Q Results

Lipman Electronic Engineering's first quarter revenues were $57.6 million, an increase of 6.3% over revenues of $54.2 million for 2005. Excluding revenues from its Dione subsidiary, Lipman's revenues in the first quarter of 2006 increased 22.6% compared to the same period in 2005. Net income for the quarter before cumulative effect of an accounting change was $6.6 million, compared to net income of $5.3 million, in the first quarter of 2005. Gross profit for the quarter was $24.5 million, or 42.5% of revenues, compared to $22.9 million, or 42.2% of revenues, for the first quarter of 2005.

PubliCARD Announces Q1 Results

PubliCARD, Inc. has reported its revenues for the first quarter of 2006 were $749,000, compared to $751,000 in 2005. The Company reported a net loss for the quarter ended March 31, 2006 of $449,000 compared with a net loss of $719,000 in 2005. As of March 31, 2006, cash and short-term investments totalled $792,000.

Radio Frequency Indentification

Software Confirms Status

Tektronix, Inc has announced that Sony Corporation has adopted Tektronix Real-Time Spectrum Analysers (RTSA) and RFID analysis software developed for measuring and analysing communication conditions between a reader/writer and a IC card equipped with Sony FeliCa contactless IC card technology. This combination of application specific software and Tektronix Real-Time Spectrum Analysers has helped Sony to quickly measure and troubleshoot communication conditions, and create consistent and reproducible results.

RFID Roll-Out at Gardeur

RF-iT Solutions GmbH and the fashion producer Gardeur ag, have announced the enterprise-wide roll-out of its RFID based logistic solution, across the international company locations of Gardeur. This step follows after 1.5 successful years of the pilot installation. RF-iT Solutions has control of all intra-enterprise supply chains with its RFID software product You-R OPEN and has improved the visibility of the product flow. You-R OPEN has been proving its value in the Gardeur locations of Augustfehn and Moenchengladbach, Germany, since 2004. Now it will be implemented at the three plants in Tunisia to control the in and outgoing product flow.

RFID Readers Now NFC-Enabled

ACG Identification Technologies has announced that it has added Near Field Communication (NFC) support to its HF mifare Easy and HF Multi ISO reader families. NFC operates over short distances and enables electronic devices such as cell phones and PDAs to connect with each other and share information simply by being positioned close together. As no further configuration from the user is required, NFC paves the way to a great number of applications, particularly in the public transport and event management sectors.

On the Move

G&D Appoints New Board Member

At a meeting of the Supervisory Board of Giesecke & Devrient GmbH, Michael Kuemmerle has been appointed to the company's Management Board as Group Executive for Cards and Services. Kuemmerle will be taking the place of Franz Haniel, who will become a member of the G&D Advisory Board. Michael Kuemmerle has been working for Giesecke & Devrient since 1999. In his current position within the Cards and Services business unit, he holds worldwide responsibility for the company's Payment division.

New S&M Manager at Thales

Thales has announced the appointment of Tony Clough as UK and Ireland Sales & Marketing Manager for its e-Transactions business line. In his new role, Tony Clough will be responsible for promoting Thales's card payment expertise across the UK and Ireland, with a specific focus on the multi-lane retail, hospitality, and unattended kiosk market segments. He will actively develop new sectors in which vending could be innovatively deployed as the UK becomes an increasingly cashless society following on from the widespread roll out of Chip and PIN.

New Head of Unit at Sagem Orga

Sagem Orga has announced the appointment of Julien Zuccarelli as the new Vice President - Head of the Business Unit Telecommunications. Zuccarelli succeeds Paul Hill.

SuperCom Appoints New CFO

SuperCom Ltd has announced that it has appointed Mr. Yaron Shalom as Chief Financial Officer. Mr. Shalom brings with him 15 years of financial management experience, having served as Chief Financial Officer at a number of multi-national high-tech companies including BigBand Networks and Finjan Software.

New Managing Director at Arcot

Arcot Systems Inc has announced the appointment of Jonathan Gill as Managing Director Arcot UK and Sales Director Western Europe, based in the Berkshire offices of Arcot International.

3 Billion Smart Cards to Be Shipped in 2006

By Jacques Seneca, Chairman, Eurosmart

EUROSMART
The Voice of the Smart Card Industry

Jacques Seneca

2.6 billion cards have been shipped in 2005, and nearly 3 billions are expected for 2006 according to Eurosmart's figures. The industry activity has increased by 22% in 2005 in the world and should be relatively constant in 2006 (+19%). Eurosmart's figures are a reference for the Smart Card industry and financial markets, giving an overall picture on the state of the market and of the major trends for the future. In 2005 mobile communication confirmed its status as the largest and fastest growing segment with almost 1.4 billion cards. The growth was driven by large population emerging countries in all regions, whereas the Chinese demand was contracting because of the reorganisation of the sector.

A continuous growth in 2006 is expected (+19%), due to a strong net addition of subscribers in emerging countries, and the migration in Europe to "3rd generation" SIM cards, whereas memory cards will continue to decline (-12%).

Smart Card Shipments Worldwide 2005

SEGMENTS	Memory	Mircoprocessor	Micro - Gowth %
Telecom	580	1390	24%
Financial Services - Retail - Loyalty	30	336	20%
Governement - Health	25	60	25%
Transport	73	20	---
Pay TV	----	55	---
Corporate Security	20	15	---
Others	10	12	---
Total	**738**	**1888**	**22%**

TOTAL 2005		2626	

The key word for mobile communication is convergence provided by SIM cards. The industry is working at the same time on providing tools for seamless roaming between networks and convergence for telecom operators to enable them to have the ability to provide services on PCs or mobile phones. Financial services, retail and loyalty has continued to grow (+20% compared to 2004). The slowdown in the UK (the introduction of chip cards in 2004 generated a lot of activity) has been offset by other countries in Europe and Asia that transformed all payment cards into Smart Cards: this "EMV migration" is expected to deploy in Turkey, Canada, Ukraine, China, Thailand and Korea in 2006. The major event for the financial sector in early 2006 was the start, in the United States of microprocessor card technology for payments, which was not driven by fraud considerations but by convenience. Asia should follow in 2006 with the introduction of contactless payments.

Smart Cards in Government and Health grew by 25%. Electronic passports were shipped in only a few countries in 2005, but electronic identity and passports are quickly moving to a real deployment in many countries. The smart card industry will foster the interoperability of digital identity on all networks and all platforms and federate pilot and leading programmes in Europe to avoid the spread of non interoperable infrastructures. Contactless systems are being adopted more and more in transport: 20 million were shipped in 2005 and the production should increase by 25% by 2006. Contactless provides convenience and security for daily travellers (for example the "Oyster card" in London or the "Navigo pass" in Paris).

The industry is adapting the technology of the Smart Card to other secure and portable formats, such as token, multi-chip devices, etc. Those devices offer more memory, have faster card interface (USB, MMC, contactless, etc.) and provide alternative authentication methods, such as "One Time Password".

# RFID Tags to Reach 5.5 Billion Units by 2010

By Research and Markets

Chinese RFID technology was rationally applied and essentially developed in 2005, and various applications and trial practices have arrived in an ever-more competitive market. The standards for RFID represent a burning issue and a decision needs to be made. Currently, in China, RFID applications centralise in non-logistics fields, while in logistics, RFID is still experimentally adopted instead of being extensively applied, which is attributable to the following two factors. To start with, there are no definite frequency allocations and technical standards for RFID so far. RFID applications in logistics are mostly within the 860-960 MHz, which stands in contradiction with the frequency band adopted by the Chinese telecom industry.

This problem can not be satisfactorily settled in a short time. Secondly, the RFID industry lacks of a sound foundation and the technology requires improvements. Compared with developed countries, the technology and application of RFID in China is still in their early stages, especially in UHF (ultra-high frequency) applications. China does not master core technologies well in chip design & manufacturing, antenna design, packaging and equipment, etc. Low and high-frequency RFID application markets have low technical requirements and many enterprises are involved. Those two frequency bands are fully developed and widely promoted, with a market share of more than 80%. Even so, RFID products are mostly of the same quality. Comparatively, there are higher technical requirements for ultra-high frequency RFID applications in which few enterprises have set foot. The application of UHF RFID is progressing rapidly in spite of higher costs.

There will be massive applications of ultra-high frequency RFID in 2008, with well-developed standards and technologies. The gross demand for RFID tags will amount to 4.4 billion units, of which the demand for UHF RFID will be 3.64 times that of 2005. It is estimated that the total demand for RFID tags will be 5.5 billion units by 2010. At present, there are more than 100 RFID enterprises in China and the most essential elements of an industrial chain have been established.
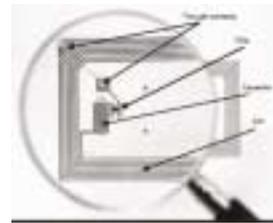
Most of companies, however, do not have their own core technologies especially in super-high frequency. Among them, there are over forty various agents and branches of foreign-funded enterprises, accounting for two fifths of the total number. In contrast, the number of chip and antenna designing and manufacturing enterprises only share less than 10%. Companies involved in system integration and developing application systems are making the fastest progress in the Chinese RFID industrial chains, with a 50% share.

What's more, less than thirty five enterprises have their own intellectual property. 75% of the firms are involved in LF/HF band which is technically well developed in early days and widely applied in hardware including chips, antennas, tags and readers. Only 12 % of the companies who specialise in MWF band know that micro-wave frequency products have confined applications. When it comes to UHF band, only four enterprises undertake 433MHz products with proprietary intellectual property.

The Chinese RFID industry will be progressing steadily in 2006. With the gradual implementation of RFID plans by Wal-Mart, more Chinese enterprises will accelerate RFID applications domestically. As for industrial applications, anti-counterfeiting 2nd-generation cards are still in leading position. Nowadays, more and more applications are expected in dangerous goods management and food follow-ups. Besides, breakthroughs will be made in industrial process control as well.

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Technology Insight
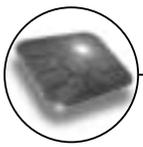
Chip and PIN Security

Microexpert

By Dr David Everett, Principal Consultant, Microexpert Ltd

The security of the 'Chip and PIN' scheme has been attacked by numerous commentators in the media resulting in a significant misrepresentation of the facts. It is of course always easier to attack a system than to defend it and purists may easily lose sight of an optimum solution, perfect security is not economically viable even if practically achievable. The objective of the scheme operators must be to achieve a solution that is 'Fit for Purpose'.

Dr David Everett

In May 2006 the press was full of the fraud resulting from card skimming in Shell filling stations in the UK, reportedly at just three sites but which has resulted in customer accounts losing over £1 million. Shell has subsequently stopped using the PIN at its own filling stations. In June there have been more stories most notably in the Daily Mail (Monday June 5th) that the chip and PIN bank card system is so seriously flawed that millions of customers are dangerously exposed to criminals.

These criticisms are based on two vulnerabilities, 1) That you can construct a counterfeit magnetic stripe card using information obtained from a genuine chip card in a compromised terminal (or with collusion) and that this same terminal would allow the hacker to obtain the PIN. 2) That you can construct a counterfeit chip and pin card using information obtained from a genuine card in a compromised terminal (or with collusion). The value of the counterfeit magnetic stripe card arises because there are still a number of magnetic stripe terminals in Asia and America. The problem here really has nothing to do with the chip and PIN scheme it is purely a matter of implementation and operation. Assuming the specifications are followed then there is insufficient information in the chip to construct the magnetic stripe data, in particular you need the CVV which should not be stored in the chip.

This means the hacker has to also read the magnetic stripe on the card. It is a security vulnerability that some terminals have been implemented to read both the chip and the magnetic stripe (from the same card). That the tamper resistance of the terminal can be easily broken is obviously a security violation. Clearly this attack has no value in a total chip and PIN world.

The second vulnerability involves an understanding of the underlying chip and PIN architecture. Apart from the card holder verification where the chip can validate the customer's PIN, the account data (as would be stored on a magnetic stripe) is also protected by a digital signature which can be checked by the terminal. Remember checking a digital signature only requires an authentic public key. The second security feature is a digital signature that protects the transaction data to prove that it is coming from a genuine card. There are two options in the chip and PIN specifications (EMV) for how this is done; 1) Static Data Authentication (SDA), 2) Dynamic Data Authentication (DDA). In the case of SDA there is a cryptographic check value (CCV which is not really a digital signature but which can provide the necessary authentication and integrity properties) created using a secret key stored in the card. The cryptographic algorithm used is symmetric which means the same secret key needs to be used to check this CCV. It is very difficult to manage secret keys in a large terminal population so this CCV can only be checked by the card issuer who knows the unique secret key for each card in his population.

If the transaction is allowed to complete off-line then the terminal cannot be assured that the card is genuine. In an on-line mode the issuer does of course check this CCV. For DDA the chip and PIN card has the capability to create a digital signature for the transaction which as for the account data can be checked by the appropriate public key in the terminal. In this case it is not necessary for the terminal to go on-line to check the authenticity of the card.

opinion

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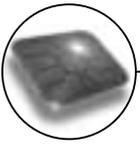
So what can the hacker actually do (we are going to ignore the specialist reverse engineering laboratories for this conversation)? Well the EMV specifications are freely available on the internet. Any programmer could build an EMV card or you could buy one in the open market place. If you have captured the account data from a genuine card and remember you do need access to the card to do this then you could produce an SDA card that to an off-line terminal would appear correct because it can't check the CCV referred to previously.

The PIN is irrelevant here because you could choose your own and set the value in the counterfeit card. The security anchor is the secret key which creates the CCV and which is not available to the hacker. If the counterfeit card is used in an on-line mode then it would be detected immediately because of the false CCV generated by some key randomly chosen by the hacker. It is clear that the hacker would have the same problem for creating the DDA card, he wouldn't know the secret key used to generate the digital signature but in this case it would be spotted immediately by an off-line terminal. So now the whole problem comes down to one of risk management.

In the case of the magnetic stripe counterfeit card there is a real problem because the issuing bank has no way of knowing whether a genuine card was used. In this case the customer's account really is on risk. That's why we have chip and PIN. For DDA and SDA in an on-line mode the transaction would be declined at the terminal. So the risk which is to the issuing bank is under what conditions to allow an off-line transaction for an SDA card. But this is just a small part of the story.

The cost of DDA cards is now rapidly approaching the original cost of SDA cards, on-line communications is becoming more readily available, and in the overall risk model the issuer needs to know there are available funds or that the customer in a post paid scenario is actually going to meet his commitments and then you have all the other controls on an EMV card to help you minimise risk. More importantly the real risk to the consumer is from magnetic stripe cards and terminals not chip and PIN when implemented and operated correctly.

Events Diary

July 2006

12-14	CardTech Korea and RFID World 2006 - *Seoul, South Korea - http://www.cardtechkorea.com*
24-28	Biometric Identification: Theory, Algorithms, Applications -*California, Los Angeles - www.uclaextension.edu*

September 2006

06-08	2nd ICAO-Standard MRTD Symposium with Exhibition - *Montreal, Canada - www.icao.int/mrtd*
06-08	SmartCards Expo 2006 - *New Delhi, India - http://www.electronicstoday.org/smartcardsexpo.htm*
06-08	Inter Airport China 2006 - *Beijing, China - www.interairport.com*
13-14	Air & Port Security Expo - *Brussels, Belgium* - www.aps-expo.com
18-20	Cards and Payments Conference & Expo 2006 - *Paris, France - http://www.efma.com*
19-22	*World e-ID- Sophia-Antipolis, French Riviera - www.strategiestm.com*
20 - 22	e-Smart Conference 2006 - *Sophia-Antipolis, France - http://www.e-smart.eu/*
20-22	Smart University 2006 - *Sophia-Antipolis, France*
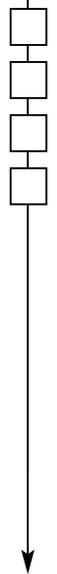
G&D Sets the Course for the Future

**By Dr Karsten Ottenberg, Chairman and CEO, Giesecke & Devrient**

Fiscal 2005 was another successful year for Giesecke & Devrient (G&D). Consolidated net sales rose 7% from 1.16 billion euros to 1.24 billion euros in 2005. G&D also raised earnings (EBIT) 8%, generating a total of 80.7 million euros. That equals a 6.5% return on sales. Net income stood at 48.5 million euros. During the past financial year, capital expenditure amounted to 50.5 million euros, up 5.6% on the previous year's level. Our had more than 7,500 people on its payrolls in 2005.

Dr Karsten Ottenberg

Our healthy financials show that our Company's position in our current core markets is sound and strong. Throughout 2005, G&D continued to grow profitably. And the Company's future growth can build on a solid foundation of financial stability and earnings power. The Banknotes business unit reported above-average growth and consistently good profit margins. In the Paper Production and Banknote Printing segments, sales went up from 586 million euros in 2004 to 640 million eurso - a 9.2% sales increase. Cash and the efficient organisation of the cash life cycle still play a big role the world over. Because of this, our banknote operations will remain a core business and one of our main drivers.

The Card business unit stayed the course in what remains a difficult market environment. The card industry is facing fiercer and fiercer competition as rivals merge and fuel further market consolidation. Despite plummeting prices, we closed the year with 595 million euros in revenues in this segment, which translates into 4.7% sales growth. The Card business unit effectively improved its earnings power and defended its share of the global market, which it had aggressively expanded the previous year. G&D consistently broadened the positioning of its Industry and Government division.

One of the biggest growth drivers of 2005 was the launch of the Austrian social insurance e-card. In only 6 months, the Company had delivered 8 million cards. The system has been readily accepted and proven its value in the field. After Taiwan, G&D views the e-card project as another milestone in implementing successful health care card solutions.
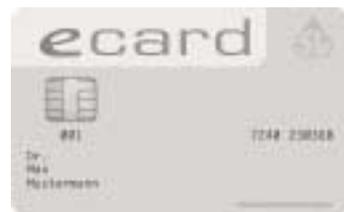
Future markets: Germany also took a crucial step closer to launching the electronic health care card in 2006. AOK, BKK and IKK are the first insurance companies to roll out the G&D-engineered Card Application Management System (CAMS). Their involvement means over 40 million cards - or more than 50% of the total German market - will be managed by G&D CAMS in around 15 data centres. CAMS is the nerve centre of the new health care card system since it controls all the functions in the card's life cycle.

Government contracts represent a growth market with enormous upside: Besides the health care card, G&D's new Government Solutions unit has taken over several other major national and international projects since January 1, 2006. They include the e-passport, the electronic personal ID card, and the electronic driver's license. This business unit is also in charge of the visa, transit and security printing segments.
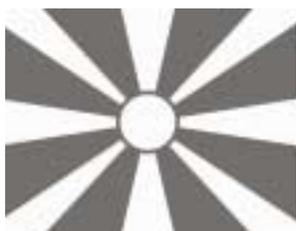
Being a capable partner for electronic ID systems, G&D was awarded a contract by the Macedonian government in late 2005 to provide a combined system for personalising e-passports, personal ID cards and driver's licenses as well as all the associated documents. The contract includes the delivery of 1.5 million electronic passport documents with integrated microchips, 1.8 million personal identity cards and 500,000 driver's licenses. More contracts are expected to come in soon from EU member states.

Company's strategic alignment: To leverage the company's potential more effectively and accelerate the development of new technologies and markets for G&D, the Company was reorganised on January 1, 2006, into three market-driven business units. The Banknotes business unit consists of the Paper, Printing and Processing divisions. The Cards and Services business unit, on the other hand, comprises the Payment and Telecommunications divisions. Government business was consolidated into a separate business unit called Government Solutions. Finally, the New Business division was created to hone the company's innovative edge significantly.

New Business allows G&D to focus on innovative issues and contribute its extensive security expertise to them. For example, we add new methods for securing access to digital content to established technologies and applications, or develop security-related applications for mobile devices. One such application is a solution developed and operated by G&D that allows secure cashless payments to be made with mobile phones.

A secure chip in the phone has a built-in payment application that can be personalised using an "over-the-air interface", permitting banks to easily manage, activate and update the chip-based application. "This solution is a prime example of how technological know-how can be used in an interdisciplinary fashion. This results in synergies which we enhance in order to leverage growth potential.

The South African Smart Card Market

By Lindsey McDonald, Research Analyst, Frost & Sullivan

FROST & SULLIVAN

The South African Smart Card market is poised to experience a significant growth spurt over the next six years with the introduction of Smart Cards by the banking and government sectors. Although both processes have been somewhat delayed, they are currently proceeding according to schedule and 2006 is likely to see some noteworthy movement in this regard.

The Europay-MasterCard-Visa (EMV) migration is entering its final phase and should be completed this year, with banks having announced their intention to roll out Smart Cards to clients in the third quarter of 2006. It is expected that a wide distribution of Smart Cards amongst banking clients will result in higher Smart Card adoption. It will also result in the introduction of new value-added services utilising Smart Cards. Such positive trends in the banking sector will be reinforced by government initiatives. The South African Government has undertaken a new national identification programme of which Smart Cards form one facet. A tender for the manufacture of these cards is expected in 2006 with their roll out set for 2007.

However, the most pressing challenge facing market participants in the government sector is the issue of timing. Although the South African Government is currently undertaking the national identification process, the programme has been fraught with many delays. Companies wanting to tender bids to manufacture cards for this project have had to contend with constant delays that, in some instances, have extracted a heavy financial toll on them. Market participants wanting to take part in government-driven projects have to ensure that their strategy is suited for this particular type of industry. Companies will have to account for delays, requirements that are specific to the sector and they will be expected to address issues such as Black Economic Empowerment.

In adopting a strategy specifically suited for the government sector, most companies have formed divisions focused solely on government contracts. This level of attention to detail is ideal and should stand companies in good stead when trying to win government contracts. It is important for these businesses to plan for delays that generally tend to occur with government projects.

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Identity Management - The Growing Challenge

By Ian Kilpatrick, Chairman Wick Hill Group

Ian Kilpatrick

Identity management is a security issue which is becoming increasingly challenging as the perimeter of the network crumbles. This is well illustrated by the DTI Information Security Breaches Survey of 2006, which shows that one in five larger businesses had a security breach associated with weaknesses in their identity management, with the number of incidents being less for smaller companies. The survey found that incidents were from staff gaining unauthorised access to data, staff obtaining and misusing confidential information, financial theft or fraud, and impersonation or phishing attacks.

While the incidence of fraud was low, the impact was greater than for any other type of security incident. Several small businesses lost between £10,000 and £50,000 as a result of fraud and one large bank lost millions. Identity management has been a problem for many years, but recent changes to the security landscape have made the risks greater. The growth of mobile computing and remote access are important factors. Couple this with the rapid rise of wireless and the growth in access to applications, then you have significantly increased the opportunities for unauthorised access into your network. At the same time, the internal threat of staff gaining access to confidential information remains as high as ever. Alongside this, the range of potential breaches has materially increased with problems such as pharming, phishing, spyware, keyboard logging, war-driving, etc. on the increase. A number of issues arise in this new landscape. How do you ensure that users activate security features when they connect to the Internet? How do you get them to protect confidential information and guard against threats such as spyware? And not least, how do you manage access to their machines by other colleagues, family or friends.

This is a challenging picture and the continued reliance on weak single-factor authentication looks increasingly ostrich-like. The DTI 2006 survey found that some 96% of large companies and 93% of all companies are still using single factor authentication to authenticate users. There isn't a single answer to resolving these problems, but a number of options. There is one thing, however, which is certain - single factor authentication (passwords) is not enough. There are a number of authentication options: single sign-on is a step forward, but requires superior identity management, two-factor authentication is much better and involves the use of authentication tokens, biometric devices, etc. three factor authentication is far superior and involves something you know (e.g. password), something you have (e.g. authentication token) and something you use (e.g. device authentication).

Identity Trust Management is another key step in identity management. It's about managing and trusting the identity of the person, as well as the device, accessing the network. It's about protecting against someone acquiring the name and identity of the normal machine user, as well as ensuring that the device requiring network access complies with company security policies. There are many components to meeting this challenge. Endpoint security systems are part of the solution. With growing numbers of remote and mobile users, EPS systems can secure those accessing the network and ensure, for example, that security policies are actually implemented on individual devices. Some EPS solutions enable you to decide which level of access to provide, based on the current level of security of the user's machine, as well as ensuring that all wireless is encrypted and that USB downloads are managed. EPS can move organisations from weak policy statements to active policy delivery and enforcement. Physical device authentication (as part of a multi-factor authentication approach) is another powerful component. There are solutions which ensure that the device accessing the network is the one that is authenticated. This provides a useful defence against many of the current methods of identity theft. Remotely stealing log-in details doesn't work if you have to be on the authorised device. Similarly, there are SIM identification methods for other mobile devices.

These are all steps on the longer road to identity trust management, where the overall level of access that you provide is based on trust in the authentication and the current level of security, of both the user and the device, coupled with location-based rules.

opinion

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Cards Today, Phones Tomorrow

ABIresearch

By Erik Michielsen, Director of RFID and M2M, ABI Research

Card-based contactless payment systems may be new, but the signs already point to a coming migration from cards, with their limited functions, to mobile handsets making use of Near Field Communications (NFC) to enable a whole range of sophisticated services including, but not limited to, contactless payment. This migration will offer market participants a constantly changing and expanding set of opportunities to cement customer loyalty and reap the benefits of co-branding and cross-promotion.

When ABI Research first examined the contactless payment market one year ago, it forecast that over 10 million contactless payment cards would be issued in North America during 2005. As the year drew to a close, that forecast proved highly accurate. With another year's worth of insight into market dynamics, the latest update to the firm's "Contactless Commerce Research Service" concludes that over 40 million cards, mini-cards, and fobs will ship globally in 2006. Contactless commerce is on a steep growth curve, but cards are only an intermediate step. By 2010, more than 50% of mobile phone handsets--some 500 million units-- will incorporate NFC capabilities that will be used not only for payments at points of sale and remotely, but also to access information from 'smart objects.' Imagine, for example, seeing a poster advertising a concert you want to attend. Hold your phone near the poster, and it connects you to a website where you buy your tickets, download them to the phone, and tap the phone at the turnstile to enter the show.

That one example suggests the multiple opportunities that will arise as this technology moves from card to phone. Technology vendors, cards issuers and a wide variety of service and product providers will have to think holistically, not just about the technology--the silicon, antenna, memory and software--but about how to use the wealth of real-time usage information that more sophisticated systems can provide. The key long-term challenge for the industry will be the management of customer relationships and brand identity across integrated payment platforms. Within NFC, carrier and issuer cooperation has been inconsistent thus far, but consumer expectations will create increasing market pressure for industry players to find common ground on mutually agreeable business models.

Japan & S.Korea Lead the Contactless World

By Andy Bae, Senior Analyst, ABI Research

ABIresearch

Japan and South Korea lead the world in adopting contactless payment solutions. Both countries have implemented nationwide services on a commercial scale. Small payment transactions are a major goal for Japanese and South Korean credit card companies. To spot new opportunities and increase revenue, mobile operators and card issuers must continually assess their positions in the value chain. In Japan, FeliCa has created innovative businesses such as Suica (East Japan Railways' transit card) and Edy (BitWallet's e-money service), through which credit card and financial services, transportation and mobile service companies have aggressively adopted FeliCa-based Smart Card payment solutions.

Furthermore, FeliCa has been installed in mobile handsets, so called 'Osaifu-Keitai' and 'Mobile FeliCa', allowing them to be used in a wide variety of contexts: as credit card, pre-paid e-money, transit card, and as identification for entrance management. For users, the major incentive to adopt a contactless payment service is easy, convenient transactions. The maturity of contactless payment solutions in Japan is closely related to the activities of East Japan Railways. The company has a nationwide infrastructure, and there are stations within which users can access entire facilities simply by waving the card.

In South Korea, mobile operators SK Telecom and KTF will introduce USIM (Universal Subscriber Identification Module) to offer an integrated mobile card solution that includes banking, transit, stock transaction, and contactless payment via 13.56 MHz. With a high adoption rate in the mobile handset, South Korean users will have an integrated Smart Card solution in their mobile devices. In addition, contactless payment solutions from Visa Wave and MasterCard PayPass have operated successfully in South Korean retail environments since 1Q 2006.

Industry Insight

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Chelsea Football Club - Chip & PIN For Payment Solutions

By 3C International

Chelsea Football Club combines shopping outlets, hotel and catering facility centre, over 24 hospitality suites, 6 restaurants, 12 bars and over 60 executive boxes located at Stamford Bridge, the home of Premiership Champions. Modern sports facilities have developed into far more than simply arenas for sport; a whole range of industries has developed at the stadium, to service the large numbers of people that regularly attend events there. These diverse operations offer tremendous opportunities for enterprising clubs, but also bring with them challenges, and require wide ranging changes to infrastructure.

The Challenge: Chelsea Football Club needed to implement an integrated, EMV Chip & PIN compliant card payment system to service all areas of the leisure centre. Within the unique retail environment of a football stadium, which experiences sudden, high volumes of demand, great pressure would be placed on the system. This provided real logistical challenges to the suppliers involved, as the system had to: *1)* Be fully EMV Chip & PIN compliant, *2)* Support the diverse range of applications required, from hotels and bars to fine dining, *3)* Support LAN connectivity, *4)* Allow mobile terminals to roam to different areas as diverse as retail outlets and pitch side private boxes, *5)* Cope with the short term, high volume usage associated with match days, *6)* Offer market leading security for transactions.

The Solution: Working alongside 3C International, Dione provided a combination of fixed Xtreme terminals for bar and hotel applications and mobile Xplorer terminals for payment at the table. The Xtreme PIN Pad is ideal for fixed use applications, and its high security, ergonomic design and intuitive user interface have made it one of the most popular Chip & PIN terminals in the world. The Xplorer mobile terminal has received security accreditations, from PCI PED, APACS confirming its status among the most secure terminals on the market today.

In addition to this, Dione's terminals are manufactured to the highest specifications, using robust materials designed to withstand rigorous use in tough retail environments, for a prolonged period of time. The terminals were all connected into a central payment application resident on a business-wide server, providing a fully integrated payment solution with full resilience powered by 3CIntegra's software to all areas of the business.

Results: Since the system went live in February 2005, it has been a great success. The solution has fulfilled all of Chelsea Football Club's requirements, and extensive trials ensured that any teething problems were fixed before it came online. "Both expanding the Chelsea Football Club service offer and ensuring a high quality level of those services to visitors is a real challenge. The 3C's payment solution together with the Dione terminals helped us to smoothly cope with the industry requirements while answering end-user needs, be it parking, restaurant, hotel, etc." explains Peter Stubbs, Financial Controller, Chelsea Football Club.

"I am delighted that Dione was chosen to provide terminals for the payment system at Chelsea Football Club. I see it as a real endorsement of the quality and usability of Dione's products, and of the company's ability to deliver on prestigious and large scale projects." Francisco Lopez, Director of Sales and Marketing, Dione. "Stand-alone Chip & PIN is a must-have system for today's UK retailers. While choosing 3C International, the Chelsea Football Club opted for an all-in-one credit card payment solution. Compliant with the latest EMV requirements, the 3C's solution operates 120 Xplorer devices and 40 Xtreme pin pads all linked to Chelsea Football Clubs LAN infrastructure", says Michael Balzer, Chief Executive Officer, 3C International.

Case Study

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Euroland: The Future of European Payments

By Jason Smith, Staff Reporter, Smart Card News Limited

Jason Smith

Historically, the payments infrastructure of each country in what is now the eurozone, developed in isolation in order to serve the needs of their individual country. The background to the creation of a single European payments area lies in the wider domain of European integration and global competition. This diversity of national payments infrastructure is now viewed as unsuitable for the needs of a single currency area. A single currency requires an infrastructure to enable the quick and smooth flow of payments at a low cost. Currently in the eurozone is a vast array of clearing and settlement infrastructure for low value payments, high value payments and debit cards.

There is no common consistency in the instruments that these infrastructures support. There are different operational rules, legal definitions and tariffs, with patch interoperability. Now the euro has come into the equation there is a greater need to harmonise and consolidate payment clearing and settlement systems and create a common payment instrument. The Single Euro Payments Area (SEPA) initiative has now been created to help form a homogeneous infrastructure so that domestic infrastructures no longer matter.

The SEPA initiative envisages the creation of a euroland where citizens, companies and other economic actors will be able to make and receive payments in euro, within Europe, whether between or within national boundaries under the same basic conditions, regardless of their location. The SEPA initiative aims to improve the efficiency of international payments and develop common financial instruments, standards, procedures, and infrastructure to enable economies of scale.

By this means, up to 457,000,000 consumers in the eurozone will gain an 'open' financial services market with flat-rate pricing for card and other payments, irrespective of whether the transaction is domestic or cross-border. Visa Europe believes pan-European card systems still need to consider local conditions. According to the company: "To be successful, any payment products need to be extremely sensitive to the level of development within local economies, the prevailing payment habits of local populations and the circumstances of local retailers. Banks and inter-bank organisations recognise that a single, monolithic governance system could never be sophisticated enough to respond to these local nuances."

The SEPA involves 64 banks from 27 countries. For SEPA, Europe is currently defined to consist of the EU 25 Member States, together with Iceland, Norway, Liechtenstein and Switzerland. SEPA's planned completion date is 2008, which is when banks will start migrating customers over to the new system. By 2010, the aim is to have a majority of banks on the SEPA framework. As a result, payment banks throughout the eurozone will need to invest heavily in technology with the capacity to support high-volume SEPA transactions.

The European Central Bank (ECB) has assigned the European Payments Council (EPC), a pan-European banking entity, to oversee SEPA mandates on its behalf. In September 2005, the EPC approved the SCF (SEPA Card Framework), to establish an open, competitive market for increased payment cards use. Card payments, as a universal mechanism, support SEPA principles and credit cards, which facilitate cross-border payments, are seen as SEPA-compliant. Debit cards are a separate issue, as Europe has more than 15 proprietary debit card networks that need to interoperate for SEPA compliance.

A new debit payments landscape is expected to emerge with MasterCard and Visa promoting their respective pan-European debit card marques Maestro and V Pay as preferred SEPA mechanisms, and other debit brands being pushed by newly established payment groups. The SEPA card framework aims to define the principles for all card transactions within the eurozone and requires the full implementation of EMV chip and PIN security standards in all euro countries.

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Greater payment card use under SEPA is a goal for the EPC, with cash accounting for over 70% of transactions in Europe, at a cost of 50 billion euros per year. Europe's banking industry accounts for 32 billion euros of this 50 billion euros cost of using cash, which means debit cards could be significant in reducing these costs. In 2005, cash comprised 82% of all transactions in the EU, but it is predicted that by 2010 this total will drop to 74%, with debit cards taking about 10% of the balance.

SEPA will cost Europe's banking industry $9 billion in total, whereas the euro currency's introduction cost end-users $25 billion. However, card-issuing banks that fail to achieve cross-border retail payment functionality under SEPA similarly risk isolation in 'silos', which could impede their future growth. At a grassroots level, retailers and acquirers will need to accept more payment brands over open infrastructures, and convert POS systems for mandatory EMV compliance, while consumers will benefit from a wider range of payment options at a lower price with greater transparency. For universal card acceptance under SEPA, common terminal application standards are needed to cut the cost of upgrading retailers' POS devices, while chargeback processes for national debit card schemes will have to be standardised.

EMV and the SEPA could become interdependent, as the SCF mandates the use of EMV to cut cross-border card fraud. "This is a big step forward," says Luke Olbrich, MasterCard. "MasterCard and Visa didn't make EMV mandatory, so we welcome the SEPA as it will drive the rollout of EMV." The SEPA can also pick up on the EMV standards work already undertaken, as Visa Europe comments: "It is fortunate that the creation of an internal market coincides so closely with the move to EMV-chip technology. Thanks to EMV, Europe's banks are now uniting around a single card and terminal standard. Indeed, if it were not for EMV, the required harmonisation would have been extremely challenging, if not impossible, to achieve."

Two years after its launch, the first milestones for SEPA have been successfully reached, the EPC is now recognised by the entire European banking industry and European political institutions such as the European Commission, the European Parliament, the European Central Bank and the European System of Central Banks (ESCB) as the European decision-making body in retail payment matters. The Single European Payments Area is quite possibly the most ambitious project for European integration currently under implementation. SEPA underpins the very competitive nature of the eurozone. SEPA will ensure that cards remain a commercial business and do not become a public utility, potentially resulting in lack of innovation and investment, to the detriment of cardholders and merchants.

The introduction of the euro as the single currency of the eurozone will only be completed when SEPA has become a reality, i.e. when consumers, businesses and governments are able to make cashless payments throughout the eurozone from a single payment account anywhere in the eurozone using a single set of payment instruments as easily, efficiently and safely as they can make payments today in the domestic context. By creating open and common standards that overcome technical and commercial barriers and by fostering effective competition, improved payment service levels will benefit the end-users of these services, namely consumers, business and governments, with transparent prices and cost efficient services. SEPA will allow the payments industry to become more efficient, thereby providing significant savings and benefits to the wider European economy and facilitating the attainment of its full potential.

There is no doubt that SEPA will have the ultimate 'major impact' on the dynamics of the banking sector. Banks in the UK and France, where EMV is more advanced, will be better placed to meet the SEPA deadline than those in the Netherlands, Spain and Germany. However as the banking industry gears up for the next big milestone in 2008, the EU and the ECB will continue to pile on the pressure. The payments operations of banks throughout the eurozone face real challenges in the coming years, so clear strategies need to be put in place to support the opportunities delivered through the SEPA.

Industry Insight