



www.ingenico.com

Ingenico

It is apparent from the sparse homepage that this site serves as nothing more than an obligatory internet presence. Everything that you would expect to find is here – latest releases, product inventories, contact details etc. but there's very little else (including prices). So instead of any useful extracurricular content the site is simply padded out with numerous mission statements, strategy plans and other banal company literature. On the plus side, the site design and layout is professional looking and unobstructive and, as you would expect from a such a lightweight site, navigation is a breeze.

- Navigation
- Content
- Appearance



www.hypercom.com

Hypercom

Behind the rather bland looking exterior of this site lurks a wealth of useful information. Located (rather confusingly) in the Products section are a series of white papers penned by the company covering its broad range of interests and downloadable as PDFs. Also here is a Reference/FAQ section that addresses some tricky technical issues and a separate page on Smart Card terminal compatibility. The media section is equally as exhaustive (including photos and a huge press release archive) and potential investors will be kept busy for hours in the financial section of the site.

- Navigation
- Content
- Appearance

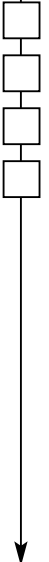


www.verifone.com

Verifone

Payment terminals are undoubtedly not the most exciting subject on which to base a website, but Verifone have proved it is at least possible to create a fresh and imaginative web experience. The homepage leads on its latest news and events which ensures the site always appears up-to-date, but deeper into the site there are a lot of useful pages to be found. Inevitably, product specs dominate proceedings but there is also a good technical support section (including an FAQ) and a good run down of current resellers for those wishing to purchase. Navigation is sometimes over complicated (there is a lot of Smart Card related info here that's hard to locate) but the strong search engine and site map help solve any problems.

- Navigation
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- Appearance





Car Insurance Dodgers Beware

Technology is catching up with car insurance dodgers. InsureNet USA has completed proof of concept for its proprietary insurance verification system to enable authorities to ascertain real-time status of a vehicle's insurance policy on the spot.

According to the company, this is the first time that a police officer, for example, can be certain, at the road side, that an insurance policy is current and valid - bad news for the drivers of the estimated 48 million vehicles in the US being driven by uninsured motorists.

The InsureNet system provides real-time verification of insurance using Smart Cards, mobile card readers, cellular communications and a secure verification system. The Smart Card chip is encrypted using the 3DES algorithm making it virtually impossible to copy or tamper with. The card readers can be used in police vehicles, courthouses, DMV offices, or anywhere else that real-time status of driver insurance is required. The system can also support the use of bar codes, radio readers, touch-tone telephones and other technologies.



Image: Doug Menez / GettyImages

The InsureNet system was invented by Dr Jonathan Miller, President and CEO of InsureNet USA and developed by the company's business partner eGlobal International. It does not divulge a driver's or vehicle owner's personal details but provides real-time status information, "active" or "inactive" so no information of a personal nature or information that may have commercial value is kept by the system.

A second level of proof of concept is now scheduled for the State of Delaware and eGlobal Chief Technology Officer, Greg Craven, explained: "The next test will use a police vehicle in three different locations throughout the State to verify the insurance status of 100 vehicle Smart Cards. All of the cards in the first test accurately reported the real-time status of the simulated policy without exception. In actual practice this would allow the officer to take appropriate action to impound the vehicle, issue a ticket or make an arrest.

Currently, many drivers obtain insurance for a short period, then cancel, continuing to use once legitimate documents; many others simply have fake documents or none at all resulting in annual losses in the US estimated to be in the billions.

"We are certain that the InsureNet system will benefit almost everyone in America. The only losers will be the criminals," said Dr Miller.

InsureNet USA is headquartered in Atlanta with other offices around the country and is represented in Australia, the UK, France, The Netherlands, Germany and Morocco.

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Don't Forget!

Our Website containing daily News On-Line, and information about the full range of SCN services, can be found at the following address: www.smartcardgroup.com

Certain images featured in this issue obtained from IMSI's MasterPhotos™ Collection 1895 Francisco Blvd. East, San Rafael, CA 94901-5506, USA





Identifying Terrorists

When you use your bank card to withdraw money from an ATM not only is the amount recorded but also the date of withdrawal, the exact location and the time. In the past this information has been useful in helping police track criminals, but now ATMs could be used to identify terrorists.

Chicago-based Capital Security Systems (CSS), which owns several Smart Card patents, claims that its Super ATM platform provides a solution for identifying potential terrorist threats.

“The recent controversy about what the US government knew about 9/11 emphasises the value of integrating information from diverse sources about potential terrorist actions,” said Robin Gustin, President of CSS.

“Based upon information received under the mandates of the USA Patriot Act, Smart Card data about cash transfers via ATM accounts can be used to detect money laundering and other illegal transactions - especially when linked to other data that might make up a terrorist/laundrer profile. The Super ATM system is ideal for monitoring and reporting these types of transactions.”

Under the USA Patriot Act, banks, security firms and other financial service institutions are required to proactively audit and report banking network transactions - the monetary hub of terrorism - by the end of 2002. Gustin believes that Smart Card technology is a major key to providing the solution.

“Information is only as valid as the identity of the person providing it,” she explained. “People can change their names and use stolen credit cards with stolen PINs, but they cannot fake a thumbprint. That is why Smart Card biometrics is forging ahead in the USA.”

She noted that even though pictures of two of the 9/11 terrorists were taken at an ATM in Maryland before they boarded the planes, the ATM banking networks are still not equipped to provide the information required to serve as an early warning system against a terrorist attack or to audit the trail of terrorists' funds.

CSS is currently licensing the patents and is pursuing their sale. For information on the patents contact www.imergeconsult.com/articles_dl.html

New Card Plant in Russia

A new facility in Moscow by ORGA Zelenograd, the

joint venture between ORGA and Russian state scientific research institute Submicron, has come into operation to manufacture telecommunications, banking, identification and discount Smart Cards. The new plant is designed to manufacture more than 25 million cards a year.

ORGA Zelenograd currently supplies SIM cards to more than 30 GSM operators in Russia and supplies payphone cards to 45 operators of payphone networks in Russian cities. The company claims to be the first Russian company to produce SIM cards using the GSM 900/1800 standard.

Smart Cards in Beijing Hotel

The Central Garden Hotel in China's capital Beijing has installed contactless Smart Card technology from LEGIC IdentSystems enabling guests to gain access to their room and pay for services, food and other items by presenting their Smart Card to the respective reader. Power management is also controlled by the card and only switches on the lights in the room when a guest is present.

Local licence partner Wincard carried out the installation, fitting 500 door locks, 500 readers for power supply identification in the rooms and 100 terminals around the hotel for cashless payment.

UK Blood Test Smart Card

UK Smart Card company SmartSensor telemed Ltd. is to develop a Smart Card that will allow people with conditions such as diabetes and high cholesterol to perform blood tests at home.

The Smart chip records the result and can then be removed and sent off for testing, removing the need to send blood in the post. The test results could then be entered directly to a patient's electronic record. The company claim that if sufficient funding was found, the device could be available to the public by the end of 2003.

Cubic \$3.5m Canadian Contract

Cubic Transportation Systems has received a \$3.5 million contract from Edmonton Transit System (ETS), in Edmonton, Alberta, Canada, to deliver a fare collection system that will be Smart Card-ready for light rail services. ETS says the deal positions it for the possibility to expand to a contactless Smart Card for buses as well.





Cubic will deliver light rail ticket vending machines and a data acquisition system to Edmonton Transit's 10 light rail stations in the third quarter of 2003.

Sitting on a Winner

Anyone who is a resident of Northern Ireland and is over the age of 65 years can travel for free using a Senior SmartPass.

The scheme was launched in May this year by the Department for Regional Development, who are sponsors of the Northern Ireland concessionary fares scheme, with the Government as sole shareholder.

According to Tim Gaston of Translink, the scheme is the largest in the UK with 137,000 applications received for the card and 135,000 SmartPass cards issued. The cards are Mifare 1K and 1400 buses are equipped with Wayfarer TGX 150 readers.

What makes this scheme unique is the daily draw. Every week day for the next five weeks, three winning travel tickets are drawn, the winners each receiving a cheque to the value of £100. All the winners have to do is produce their Smart Card which will verify them, the journey and time used and the ticket for the winning journey.

When asked why a paper ticket needed to be issued, Gaston explained that there was a policy for all passengers to carry a ticket, and it also made it easier for passengers to know how many trips were still available along any limitations. Translink have received £6.3m from the Government, with the concessionary travel being worth £16m. There are plans to roll out a multi-journey card in the future.

University ID and Access Control

Tampere University of Technology in Finland is to use Miotec's contactless Smart Cards for ID and access control. About 20,000 of the new RFID cards will be delivered in the first phase to allow only authorised students and staff to come and go throughout the university around the clock.

Corporate Card

HID Corporation, a provider of contactless Smart Card technology, and Infineer, a cashless technology solutions provider, have partnered to create The Corporate Card encompassing applications such as photo ID, access control, time & attendance, point

of sale, vending, secure authentication, photocopying and printing which will enable companies to grow their systems without having to issue new cards.

New ATM EMV Solution

Scottish ATM company Level Four Software has launched EMV FastTrack to enable banks to test EMV Smart Cards in a simulated ATM environment directly from a desktop PC.

CEO Martin Macmillan said: "The introduction of Smart Cards is the biggest single change in ATM technology for 15 years and banks have no choice but to test their ATM systems exhaustively to ensure that they can support this new technology. Customers have come to rely upon ATMs as a key part of their daily life, so banks cannot afford to lose customer confidence through teething problems."

MultiFLYe Contactless Cards for Finnair

Miotec is to supply Finnair with contactless cards as part of Finnair's new MultiFLYe electronic travel service concept.

Used with an electronic flight ticket, the contactless card is designed to speed up boarding and will be used on domestic flights. The passenger goes through an automatic eGate with the contactless card in his pocket. The gate identifies the card and transmits the information to the check-in system. The passenger information is updated, the gate opens and the passenger can board the plane.

Miotec will supply the cards whilst its partner, SysOpen Oy, will integrate the gate solution into the background system. The gates are being supplied by Ideos Oy.

Miotec's CEO Timo Friman claimed the project is one of the first solutions in the world that incorporates "a genuinely ticketless service."

For more information visit ...



The InsureNet
www.TheinsureNet.com

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Miotec
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Finnair
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Sysopen
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Water Utility Service

WorldWater Corp has shipped the first production models of its proprietary AquaCard Smart Card and AquaMeter systems to the island province of Cebu in the Philippines to initiate utility water service in communities, according to the company Chairman and CEO Quentin T Kelly.

The new debit card systems operate directly with WorldWater's solar water pumping stations in the community, he said. Residents insert the cards into the AquaMeters which then deliver the requested number of litres of clean drinking water from the solar pump nearby. The microchip on the card reads when the card needs to be recharged by the customer at the community bank.

The user can purchase up to 1000 litres per charge at a cost-per-litre significantly less than he must pay for water from other sources, Kelly explained. The bank then turns over the money to the community government, which uses the funds to pay back the loan used to purchase the equipment and installation from WorldWater. WorldWater maintains a carrying charge of some 10 per cent net of the card gross for service charges during the life of the contract (currently 10 years).

"The process enables small communities to borrow funds from banks for clean water utility service for the people for the first time," said Dr Anand Rangarajan, Executive Vice President of WorldWater.

Future plans include altering the microchip on the AquaCard to make it a PowerCard and supply the same service for rural electricity.

1,000,000th FIPS-Certified Smart Card

SchlumbergerSema has delivered the one millionth FIPS 140-1 Level 2 certified Cyberflex Access 32K Smart Card to the Department of Defense (DoD) Common Access Card (CAC) program.

The card is the first of its kind to receive this certification by the National Institute of Science and Technology (NIST), and fully meets the stringent DoD CAC specifications for Java-based Smart Cards with cryptographic applications.

SAGEM Awarded EMV Level 2

Europay International has awarded SAGEM its EMV Level 2 certification for its D-920 and D-950 payment terminals.

ImageWare Targets China

ImageWare Systems has released its EPISUITE ID software solution in Chinese. The software enables users to design ID cards with photographs, signatures and fingerprints. It also maintains a secure database of cardholder information, encodes magnetic stripes, bar codes and chips used in Smart Cards.

Dione Low Cost Terminals

Dione, UK-based card terminal manufacturer, is launching two new low cost terminals, IC-Xpress and Xtreme for retailers who are adopting Smart Cards and PIN entry as a method of identity verification.

Dione terminals are also supporting the recent link up between Sainsbury's supermarket and Boots the chemists in the UK. The link-up allows Boots Advantage Card holders to accrue points on Boots health and beauty products that they buy in Sainsbury's as well as the usual reward points received from their Sainsbury's products. A trial is currently running in six of Sainsbury's stores.

Cholesterol Monitor's Third Supplier

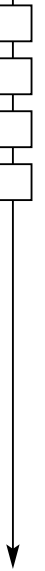
Lifestream Technologies has announced that McKesson Corporation has become the third major drug wholesaler to distribute the Smart Card-enabled Lifestream Cholesterol Monitor to the drug store market, joining AmerisourceBergen and Cardinal Health.

The Monitor offers consumers a fast, easy and accurate way to monitor their cholesterol levels in the convenience of their home, between doctor's visits and allows up to 200 test results to be downloaded onto the Data Concern Personal Health Smart Card that comes with the unit. The monitor has a suggested retail price of \$129.95.

"The independent drug store market is an important component to our distribution strategy, representing the community-based pharmacies many Americans rely on as their primary source for healthcare purchases," said Christopher Maus, Lifestream's Chairman and CEO.

Recovery in Semiconductor Market

The Semiconductor Industry Association (SIA) believes that an industry-wide recovery is now underway and predicts that global chip sales will rise by 3.1% in 2002 with the growth rate accelerating to 23.2% in 2003 and 20.9% in 2004.





Dwight Decker, Chairman and CEO of chip maker Conexant Systems, said: "Last year was the most difficult and challenging year in the history of the semiconductor industry. So far this year, we have seen a significant decline in excess inventory and manufacturing capacity, and the industry has resumed modest sequential growth, indicating that we are in the initial stages of a recovery."

Key driving factors in the recovery are increased sales of mobile handsets and personal computers as well as digital consumer electronics applications.

Certification for Infineon Controller

Infineon Technologies has received Common Criteria EAL 5+ Certification for its chip card controller with 32K bytes EEPROM and 2,048 bit RSA crypto library from the German Information Security Agency (Bundesamt für Sicherheit in der Informationstechnik, BSI).

Eastcom Selects Ascom IC for China

Zhuhai Eastcom Peace Smart Card Co has selected Atmel's AT90SC Smart Card ICs for the development and deployment of the CDMA USIM card for the Chinese market.

Eastcom Peace has already had success on the Chinese GSM market using the AT90SC product family based on an AVR high-performance 8-bit secure microcontroller using enhanced RISC architecture and compliant with mobile phone (2, 2.5 and 3G) specifications.

Huang Xiao-peng, R&D Director of Eastcom Peace, said: "The combination of Atmel's dense non-volatile memory technology with the high-performance AVR 8-bit RISC microcontroller offers a very cost-effective solution for our development. Use of flash technology provides us with greater flexibility to satisfy our end users' changing requirements. It also helps us to reduce the development risk while accelerating time to market."

Precise Biometrics Prison Contract

Precise Biometrics has won a public procurement contract within the National Swedish Prisons and Probation Administration (PPA) which is testing Precise Biometrics' fingerprint reader and associated software at a number of workstations in the headquarters in Norrköping, Sweden.

The procurement was carried out during the spring

and is a phase in the work within the PPA to enhance IT security. It has several registers that require a higher level of security. Instead of using ID/passwords as it does today, the PPA is now investigating the possibility of moving to a system with fingerprints and Smart Cards.

"We see great advantages with fingerprint-based login. Partly to minimise the risk that unauthorised persons can gain access our systems and partly because we hope to reduce the administration concerning passwords and codes," said Bjorn Linderöth, the PPA's Head of IT security.

If the tests are successful, a broader implementation of the products could follow after the summer.

Evaluation of Biometrics for TSA

International Biometric Group has delivered a final report evaluating biometrics in a range of large-scale, mission-critical air travel applications to the Transportation Security Administration (TSA).

The evaluation assesses how biometrics can be applied to resolving the challenges associated with passenger processing, employee access control, and surveillance applications.

Michael Thieme, Director of Special Projects for IBG, said: "Successful real-world deployment of biometrics in large-scale applications requires an understanding of the substantial challenges involved in performance, interoperability, standards, privacy, and logistical issues."

Security Certification for Hitachi IC

Hitachi's AE45C Smart Card IC has gained a security certificate under the Common Criteria for IT Security Evaluation. A member of Hitachi's flagship AE-4 family of Smart Card microcontrollers it features 32K bytes EEPROM, plus DES and modular multiplication coprocessors.

For more information visit ...

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Biometric Security in Healthcare

SAFLINK Corporation has started the second phase of a 5,000-user biometric security solution roll-out for St Vincent Hospital and Health Care Center in Indianapolis.

The system, which combines Computer Associates' eTrust Single Sign-On software and SAFLINK's SAFAccess biometric security solution, enables health-care workers to access patients' electronic medical records, while complying with the government's Health Insurance Portability and Accountability Act (HIPAA) privacy rules that become effective in 2003. It also helps to eliminate the problem of lost or forgotten passwords.

The Office of the Legislative Counsel, the legislative drafting service of the US House of Representatives, has begun deployment of SAFLINK's biometric security solution. The deployment calls for the installation of SAFLINK's biometric authentication software, SAF2000 for the Enterprise onto computers at the OLC.

"To our knowledge, this is the first initiative in the House or Senate that uses biometric authentication to provide information security. It is an important validation of the value of biometric technology for Government applications," said Walter Hamilton, Vice President, Business Development at SAFLINK.

"Because documents created and held by the OLC are sensitive in nature, it is important that they be adequately secured," said Hamilton. "We believe that our SAF2000 solution, combined with Panasonic Authenticam desktop iris recognition cameras, will provide the level of security required for this critical Government application."

Reader from Bioscrypt and HID

Bioscrypt has combined its fingerprint biometric with HID Corporation's iCLASS contactless Smart Card technology for access control applications. Called V-Smart iCLASS, the new proximity cards and readers will be available next month.

In the new system, fingerprint templates are securely stored on the cards making them portable databases suitable for installations spanning multiple sites.

Last month, Frost & Sullivan named Bioscrypt as number one in the fingerprint scanning biometrics market in 2001 with a 22% market share.

Protecting Students in Florida

An automated fingerprint identification-based applicant processing system for all education and insurance workers has been introduced in Orange County Public Schools headquarters in a move to protect the safety of students.

Lockheed Martin Information Systems' digital electronic system will process the fingerprints of more than 250,000 job applications received for jobs in the state's educational system and insurance industry each year. The state expects the system to be operational in all Florida counties by July 2002.

The contract awarded by the Florida Department of Education is worth around \$8 million. Lockheed Martin's fingerprint enrollment technology, developed in conjunction with Integrated Biometric Technology, allows customers to conduct fingerprint background checks via a channelling agency to the FBI.

Six Airports Select Identix Technology

Identix has announced that it is to provide fingerprint biometric technology to six airports for rapid processing of employee background checks.

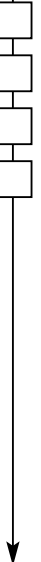
The airports will be employing Identix Live Scan TouchPrint 2000 Applicant Fingerprint Systems (TP 2000 AFS) to assist them in complying with the employee background check requirements of the Aviation and Transportation Security Act.

The airports are Philadelphia International Airport, Charlottesville-Albemare Airport in Virginia, Laurence G Hanscom Field Airport in Bedford, MA and Tulsa International Airport in Oklahoma. Boston's Logan International Airport has ordered two additional Identix AFS' and Orlando International Airport has also ordered a further Identix Live Scan System.

EMV and Infrared Payment System

Visa International and SK Telecom (SKT) headquartered in Korea have agreed to implement wireless payments that incorporate Smart Cards and infrared technology and using Visa debit or credit payments over mobile phones.

SKT is the first company to implement EMV-based infrared technology for wireless payments and since April has been piloting a chip-based payment service using an infrared-enabled mobile phone with 20 merchants at the Seoul Finance Center. The company says





that later this year the program will be rolled out to more than 30,000 merchants in Korea and predicts that two million infrared-enabled handsets will be distributed by the end of this year.

The payment solution will integrate the EMV (Europay/MasterCard/Visa) Smart Card specifications and IrFM (Infrared Financial Messaging), the interoperable standard for infrared transmission. Visa cardholders and SKT subscribers will be able to pay for goods and services by beaming an infrared signal securely from the mobile phone to a small infrared receiver located at retail point-of-sale terminals, vending machines, subway stalls, tollgates, buses and other payment locations. Cardholder payment details are stored securely on an EMV chip within the handset.

Dual Chip ID

Nokia and Nordea are piloting the wireless delivery of banking and stock exchange services in Finland by means of dual chip identification. The participants have received a Nokia WAP mobile phone equipped with both a SIM card issued by the operator and a chip card issued by Nordea.

Customers log on and confirm orders by means of the chip card issued by Nordea. The WIM (Wireless Identity Module) included in the chip card makes it possible for users to identify themselves and supply digital signatures to confirm their transactions.

Qiao Xing Acquires CEC Telecom

Qiao Xing Universal Telephone, the second largest telephone manufacturer in China, has completed its previously announced acquisition of a 65% stake in CEC Telecom. A former subsidiary of China's largest State-owned electronics and information industry group company, China Electronics Corporation, it is one of only nine companies in China that possess both GSM and CDMA licenses.

ORGA SIM-to-SIM Card Reader

ORGA Card Systems (UK) has developed a new SIM card reader application that claims to be able to read all the information stored on a SIM card from any network operator in the UK.

ORGA's SIM-to-SIM (or SIM-to-memory) card reader works by backing up the information held on a SIM card which include Fixed Dial Numbers (FDNs), Automatic Dial Numbers (ADNs) and SMS text messages. The data is duplicated and saved onto a SIM or memory card. However, unlike many other SIM

card reading services, the ORGA device does not retain any personal customer information.

The backup card is owned by the customer and can be re-used at any time to update the information contained on it.

"Cloning the information on a SIM card is such a simple idea but one that is immensely useful," said Jonathan Coldwell, Technical Manager at ORGA. "ORGA has developed an innovative piece of software that simplifies the whole process of copying the data contained on a SIM. It can be used by businesses or in high street stores.

Cut Price SIMs Row

Orange Thailand (TA Orange) has struck out at a Bangkok retail centre for selling cut price SIM cards that it claims undermine its own operations in the region.

Customers can buy the cards at Mahboonkrong, the largest retail centre in Bangkok for mobile handsets, for just 199 baht (£3.21, \$4.68), although they are still required to register for an Orange subscription package. A source claimed the SIM cards had been retained by many vendors who were supposed to include them with TA Orange's handset sales promotion.

TA Orange Chief Marketing Officer Adiruth Thothiseansuk warned that the company would scrap sales arrangements with any dealer found to be selling the cards.

For more information visit ...



Cybernet Medical

www.cybernetmedical.com

Saflink

www.saflink.com

Bioscrypt

www.bioscrypt.com

HID Corporation

www.HIDCorp.com

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Identix

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VISA

www.visa.com

Nokia

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Nordea

www.nordea.com





MasterCard / Datacard Agreement

MasterCard and Datacard have announced that they are to co-operate on a variety of key initiatives to support the deployment and management of Smart Card programs by MasterCard's member financial institutions.

The multi-year agreement will provide MasterCard's members with Datacard's solutions for developing, testing, personalising and managing Smart Cards, aimed at assisting the conversion from mag-stripe cards. The companies will also provide MasterCard members with Smart Card security consulting services, training and education programs.

"Smart Card issuance and management present entirely new and potentially complex challenges for card issuers," said Jerry Johnson, Datacard's president and CEO. "This alliance will simplify the management process for MasterCard's members, whether they choose to run the management system themselves or outsource the process to Datacard."

1m Setec SIM Cards To Thailand

Setec has won a deal with Thai telecom operator DTAC Total Access to supply the company with one million 16k SIM cards. The delivery is expected to be completed by autumn 2002 and is claimed to be one of the largest SIM card deals ever in South East Asia.

According to Mr Pekka Santanen, Senior Vice President of Setec's Telecom & Media Business Unit, local presence is vital for succeeding in the region. "Many new wireless services require local SIM based solutions, which would be difficult to implement from Setec's headquarters in Finland," he said. "Setec's Bangkok office with its 20-person R & D team is able to tailor-make SIM cards according to local customers' needs."

Hotel Chain Rolls Out 50,000 Loyalty Cards

The Millennium and Copthorne Hotel chain is to roll-out 50,000 Gemplus Smart Cards in a new European-wide customer loyalty scheme, according to a report in Computer Weekly UK. It is hoped that the scheme will expand to include America, Australia and Asia with 250,000 of the cards expected to be in circulation by next year.

Hotel receptions and other Points of Sale will be

equipped with the Smart Card terminals. Customer data will be tracked centrally and accessed via the terminals or a website allowing customers to sign up to the scheme, check loyalty points and make reservations. Millennium and Copthorne claimed the new scheme will allow it to "better understand customers' needs and tailor services to suit their preferences."

Drexler To Power Italian ID Card

The Italian government has ordered 39 Crypto 1 encoders from Drexler Technology's subsidiary LaserCard Systems to help with the issuance of its new national ID card.

The encoders will be configured into a card initialisation and authorisation system, capable of encoding up to 40,000 cards per day, in support of Italy's national ID card requirements. The system was developed by German Smart Card IC supplier Muhlbauer.

The new Italian national ID card, known as the 'CIE' card (Carta d'Identita Elettronica), is based on the highly secure LaserCard optical memory card manufactured by Drexler, which has already delivered 200,000 of the cards for the scheme. Project roll-out is scheduled to begin in August.

Gemplus Launch EMV Upgrade

Gemplus has announced a further upgrade to its 'EMV Prime' suite of solutions with the launch of its 'EMV Card Issuance' services package.

EMV Prime was launched in February 2002 and Gemplus claim the new upgrade has been developed in response to early user feedback. The new component claims to reduce migration complexity, limit operational risks and reduce time to market.

For more information visit ...



MasterCard

www.mastercard.com

Datacard

www.datacard.com

Setec

www.setec.com

Millennium Hotels

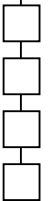
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Drexler Technology

www.lasercard.com

Gemplus

www.gemplus.com





Smart Cards Kick Off World Cup 2002

In the modern era the world's major sporting events are about so much more than simply what happens on the field. The 2002 FIFA football World Cup, which kicked off this month in Japan and South Korea, proved to be a great opportunity for a broad range of companies to showcase their latest innovations. There are examples of such opportunism falling flat on its face - IBM emerged red faced after its state-of-the-art scoring system threw the 1996 Olympic games in Atlanta into chaos, but with the world's attention guaranteed for a whole month, many Smart Card and telecoms companies saw it as an opportunity too good to miss.

As one of the tournament's chief sponsors MasterCard's build up to the cup began almost three years ago with the launch of its branded credit card tie-in. Closer to the event, MasterCard hooked up with the Japanese government to launch a special Smart Card scheme that would allow world cup visitors to shop and use public transport.

According to Japan's Ministry of Land, Infrastructure and Transport 5000 of the IC-chip embedded cards were given free of charge to people holding World Cup tickets. The card was programmed to store Y1,000 worth of public transport and up to Y2,000 worth of shopping and could be loaded with electronic cash at special machines that were set up in each country. It could be used either as a MasterCard credit card or for electronic money transactions in the Japanese yen or South Korean won.

Unfortunately use of the card was restricted to selected airport shops, major hotels and official World Cup shops in the host cities and, curiously, the card was not accepted at the venues themselves. However, in some instances the card proved a big success. Sapporo on the northern Japanese island of Hokkaido hosted England's first round win over Argentina as well as games featuring Italy and Germany, but was one of the most remote venues of the tournament. To cope with the influx of fans to the island the World Cup card was made compatible with all the relevant subway and shuttle ticketing schemes to ensure a quick and easy ride to Sapporo's Dome Stadium.

It was in the telecoms sector, however, which saw the greatest flurry of activity as many fans experienced the benefits of the long-awaited (and much troubled) 3G technology for the first time.

Fittingly enough it was South Korea's SK Telecom who became the first-ever operator to commercially deploy a 3G network when it launched the service in October 2000, and so Code Division Multiple Access (CDMA) and digital wireless technology looked to announce itself to the world at this year's tournament. Today, there are 15 operators with more than 10 million subscribers across the globe enjoying advanced 3G services and many used the World Cup to showcase its advanced capabilities.

During the World Cup, the 3G mobile user was able to watch video clips of the games, access real-time scores, take photographs and e-mail them to friends, and in South Korea, download the World Cup 'Brew' applications that allowed access to stadium, hotel and ticket information.

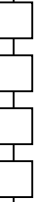
Operators who didn't have a foothold in the Korean and Japanese markets focussed on providing those who were not lucky enough to travel to the far east with up to the minute goal flashes and results.

Unsurprisingly, given their desperate attempt to discover more avenues of revenues, the majority of operators developed basic World Cup information services (usually via SMS) but some schemes, such as Match2Mobile in Australia, went a stage further with a complete news services compatible across all the main mobile technologies including GPRS and WAP.

Back in Korea and Japan, the high tech gadgetry has inevitably spiced up the tournament for both locals and visitors but it may mark only the beginning of the convergence of Smart Card and mobile technology with global sporting events.

A genuine multi-function Smart Card scheme was not proposed at this year's World Cup, hindered primarily by the tournament being spread across two countries with two separate currencies, but plans are already underway by the Chinese government to use Smart Cards at the 2008 Olympic Games in Beijing. The company responsible for the scheme, Beijing Development, claim that Smart Card enabled systems are to be installed on 4000 buses in Beijing by the end of the year, and estimated that between 400,000 and one million Smart Cards would be issued prior to the games.

The next World Cup finals in 2006 will take in place in Germany where Europe's advanced position on Smart Cards will ensure that the technology will undoubtedly have an even bigger role to play.





ID Data Raises £4.1 Million

ID Data has placed 91,961,276 new ordinary shares at 5p per share on the AIM market to raise £4.1 million to fund growth in new business sectors, the development of the Systems Division and ChipPort and the payment of the existing obligations. The placing is conditional upon the approval of shareholders, meeting on 17 June.

Since March the company has announced new orders to supply multi-application cards to the value of £2 million, the launch of European loyalty membership schemes with a combined value in excess of £6 million and a contract with EDS of £7.5 million which will run until 2006, to supply EMV compatible bank cards.

G&D Maintains Growth

Giesecke & Devrient (G&D) stayed on course for further growth in fiscal 2001 generating total revenue of Euro 1.116 billion in fiscal 2001, an increase of just under 7% over the previous year.

The Banknote segment contributed 56% of sales revenue overall while the Card segment with its units banking/industry/government and telecommunications was responsible for 44% of revenue. The proportion of revenue generated outside of Germany rose to 70%.

Willi Berchtold, Board Chairman and CEO, said: "In spite of the severe cyclical downturn, we were able to maintain growth through the past fiscal year. In this connection, diversification of the organisation, with the Banknote System and the Card System as core competencies, clearly paid off."

However, the company's operating result was lower than that of the previous year due mainly to higher spending on research and development and restructuring costs.

Setec Elects New Chairman

Matti Packalén has been elected Chairman of the Board of Directors of Finland's Setec Group, a provider of Smart Card-based solutions for secure electronic transactions in open networks.

Oberthur Calm Over SIM Card Sales

Pierre Barberis, new CEO of Oberthur Card Systems remained calm at the company's annual general meeting this month as he attempted to reassure investors that the company was surviving the current harsh

economic environment caused by the collapse of SIM card sales.

"Today, given the pressure from competition, we are not in a position to say anything about our margins. Our crystal ball is no clearer than two months ago," said Barberis referring to a meeting with analysts in April. "While our growth in the bank card market is more predictable, our profitability in the mobile phone market has been severely shaken."

Former CEO Thomas Savare (now with parent company Francois-Charles Oberthur) said Oberthur still aimed to get its operating margin back to 10% as quickly as possible, but declined to give a timeframe.

He added: "Everybody expected a rebound in the mobile phone market in the second half of 2002, but today, neither our clients, nor the equipment makers can say they have clear visibility on the sector, and neither can we."

Infineon Acquisition

Infineon has confirmed that it is to acquire Ericsson Microelectronics, Ericsson's internal semiconductor supplier for Euro400 million as part of a share based deal.

STM Predicts 3% Growth

According to STMicroelectronics the chip industry is showing signs of recovery and the company anticipates a 3% sales growth this year to \$143bn. This compares with a 32% decline in business last year.

Jean-Philippe Dauvin, STM's Chief Economist, is reported as saying that the industry is at the start of a four-year recovery program.

ORGA Appoint New Card Boss

ORGA has appointed Hans-Peter Bauer to run the newly organised card division which will be split into three business units: telecommunications, banking and health/ID and card production. He joins ORGA from IBM Deutschland.

For more information visit ...

GDAI
www.gdai.com
Setec
www.setec.fi
Gartner
www.gartner.com

SchlumbergerSema
www.slb.com
Gemplus
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Infineon
www.infineon.com





Smart Card News On Line: Round-Up

Smart Card Group's *Smart Card News On Line* service is emailed to subscribers every working day, reporting on industry events as they happen. This service is available FREE to *Smart Cards Now* subscribers (£100 per year for non-subscribers). For further details and to sign up please contact Amanda Pearce - amanda.pearce@smartcard.co.uk; tel: +44 1273 515651 (further contact details are available on page 03). Here's a selection of the headlines we covered in May:

Corporate

- Gemplus Look Toward a Brighter Future
- Vasco Hit Back At ActivCard
- PublicCARD Post Mixed Results
- ActivCard Release First Quarter Results
- Gemplus Strike Deal With UK SME Partner
- Oberthur Appoints New CEO
- Hypercom in Management Reshuffle
- First Data Speed Up Share Repurchasing
- Infineon Form New R&D Wireless Unit
- Hynix Agree To Company Break-Up
- Security Plastics Expands Production Plant
- ORGA Appoint New Card Boss
- Miotec Release 2001 Report
- Qiao Xing Completes Acquisition of CEC Telecom
- NEC to Spin Off Semiconductor Business
- ADAXCO to Partner with Johnson Controls
- Packalen Elected Chairman of Setec Board
- ID Data Raises £4.1 Million
- ACI to Consider Redundancies
- Xansa Make New Appointments
- XIRING and Cryptomathic in Alliance
- DNP and STMicroelectronics in Alliance
- Gartner Dataquest Names SchlumbergerSema as Leading Card Provider
- ORGA Restructures Into Two Divisions
- Cubic Finalises Plans to Relocate UK Headquarters
- VHS Network to Acquire Girex Bancorp Inc
- Setec to Negotiate With Workforce to Achieve Cost Reductions
- MasterCard to Merge Vendor Programme with Europay
- HID and Finer Partner
- Gemplus Leads the Smart Card Industry for Fourth Consecutive Year
- NDS Legal Battle with Canal Plus Continues
- MasterCard Launches Global Vendor Program
- ST Microelectronics Issues Note of Cautious Recovery
- ARM Fails to Convince Market
- Global Chip Sales Set To Rise
- First Data To Acquire ECG
- ORGA Zelenograd Builds New Smart Card Facilities
- Infineon and Ericsson in Talks
- Baltimore Targets Chinese Market
- Imageware Systems closes Financing with Perseus
- China Bank to Lend \$60m to Siemens Shanghai Venture

Government

- Smart Card Alliance to Host US Government Event
- US Proposes Driving Licence Smart Card
- Viisage Pledge Support For US Smart Driving License
- London Smart Card Hindered By Lack Of Standard

- UK Seek Business Support For Entitlement Card
- SCM Deliver Extra Readers To DoD Program
- Biometric Passport Plan in Australia
- EDS Provides Technology to Implement Advanced Smart Cards

Banking

- SchlumbergerSema To Supply MasterCard EMV Cards
- Visa Pushes Malaysia Smart Card Migration
- Amex Lead US Smart Card Charge
- Visa Launch New Verified By Visa Service
- UK Bank Launch ATM Mobile Payment Service
- New ATM EMV Solution Offered For UK Banks
- UAE EMV Conversion On Track
- Visa Partner Program Takes Off in Asia Pacific
- First Data Launch Credit Card Fraud Detection System
- Finland to Pilot Mobile Chip ID for Banking
- SchlumbergerSema Launches EMV Lifecycle Services
- Bibit and euroConex Combat Internet Fraud with Verified by Visa
- ORGA And PPP In US Smart Card Alliance
- First Wireless Payment System Using EMV and Infrared
- UFJ Issues Smart Bank Cards In Japan

ID & Authentication

- SecureTech To Integrate Spykiller Suite
- ImageWare And Cross Match In ID Badge Alliance
- HID And Bioscrypt Launch Access Control System
- US Airports Adopt Fingerprint Biometrics
- CIC Launch PDA Digital Signature Wallet
- Bioscrypt and HID Launch New Biometric Reader
- SAFLINK Rolls out Biometric Security Solution
- Florida USA Introduces Fingerprints for Students
- SCM Add Biometrics To Smart Card Readers
- Oberthur Launch Smart Card Web Assistant

Telecoms

- Bluefish Win SIM Contract In West Africa
- Infineon And eAnywhere Unveil Chinese Mobile
- Nokia Win \$50m Thai GSM Contract
- Orange Seeks Partners For US Service
- G&D And Euronet in Mobile Payments Alliance
- ORGA Launch SIM-to-SIM Card Reader
- SchlumbergerSema And Entrust Win Hutchison 3G Contract
- K'Cell in Kazakhstan to use ORGA Software
- Sonera to Open Roaming Connections to South Korea
- Sewon Telecom to Adopt Motorola's i250 Platform
- Pantech Selects Wavcom's Wireless Technology

- Asia Pacific Set For Huge Mobile Growth
- TIM Peru to use SchlumbergerSema Java
- Bluefish Chosen to Advise on Value Added Service

Technical

- IBM Issue SIM Card Hacking Alert
- Cheap and Easy Smart Card Hacking Method Revealed
- Linux Debuts On ARM Platform
- New Hacking Fears Overestimated Says Expert
- Hitachi Smart Card IC Awarded Security Certification
- Common Criteria Certificate for Infineon Chip Card Controller
- Visa Certifies ACI Secure Commerce Software
- New GlobalPlatform Smart Card Compliance Tool
- Shanghai Hua Hong Chooses Teradyne's Integra J750 for Smart Card Test
- Virage Logic Announces SRAM Licensing Agreement With STMicroelectronics

Retail

- Horizon Launch Loyalty Application
- Trintech Announce PayWare SmartPIN
- UK Retailer Adopts RFID Tagging

Transport

- European Frequent Flyer Smart Card Trial
- New Consortium Bid For Dutch Smart Fare System
- Commuters Embrace Tokyo Smart Card
- Japanese Travellers prefer Smart Cards to Cash
- Australian State to Abolish Metcard

Healthcare

- Health Company Adopt Identix Solution
- McKesson to Distribute Lifestream Cholesterol Monitors
- HospITech to Demonstrate Security Solutions at NJHA HIPAA Resource Day

Leisure

- Finnish Bank Launch Digital TV Banking Service
- LEGIC Smart Cards Check-in at Beijing's Central Garden Hotel

Misc

- NTRU Join Smart Card Alliance
- University to use RFID Cards
- Utimaco Issues Biometric Security Recommendation
- ImageWare Launches Episuite in Chinese
- Bluetooth USB Dongle

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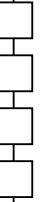
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Credit Card
Number
Expiry Date
Signature

Name
Company
Address

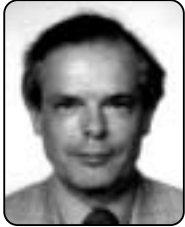
Telephone
Email





ITSO Expensive?

by Peter Tomlinson



Peter Tomlinson

The ITSO¹ Specification is a voluntary² specification for interoperability of UK transport ticketing when implemented on contactless Smart Cards. As such, it is intended to sit on top of local or operator specifications. A single operator can still use a proprietary specification to issue, for example, a season ticket that is valid only on that operator's services. By contrast, an interoperable ticket valid on all operators working the same route is expected to be issued and processed to the ITSO specification, and the back offices used to process ticket use records (and therefore share out the revenue from the ticket) are expected to interface with ticketing equipment and with each other according to the ITSO specification.

Such is the nature of both Smart Card technology and transport ticketing systems that the ITSO specification becomes all-pervasive within the systems used to provide and process tickets. The consequence is that we hear from all sides that an ITSO-compliant scheme is too expensive to build and run.

First there is a competition issue: competition law and UK government transport policy are both pointing in the same direction. Passengers should have a choice of service operators, and those operators should compete for passengers. Transport policy then adds three elements of utility: the interoperable ticket or pass (valid on any service provided on the route or in the area travelled), the interoperable carrier of the ticket or pass (the Smart Card that can be processed by all participating operators) and the interoperable processing systems (a network of back offices that exchange data in a standard format). Inevitably, the private operator sees providing interoperability as both a cost (new or upgraded systems and equipment, plus the cost of the Smart Cards and the cost of operating the revenue sharing process) and a threat (it becomes easier for a new operator to set up and thus take part of the revenue available on each route). Soon or later the operators will bite this bullet.

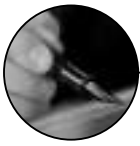
Now we come to the real problem: the assumption being made is that all the records from all the ticket issuing and use must, in an ITSO-compliant scheme, be fully processed until every penny of revenue is accounted for and 'settled', and that all the records must be kept for a long time just in case they have to be referred to again. Contrast this with the present situation where, *in some cases*:

- the *information* collected by the ticket machine is destroyed very soon after the driver has cashed up in the depot
- the *process* of allocating concessionary revenue (subsidy for carrying pensioners, etc, at a discount or for free) is entirely paid for out of the public purse (by carrying out passenger surveys and then using a statistical model to work out the revenue share).

The answer to the cost problem is already there in the methods used today: in normal operation, reduce the amount of data to be collected, processed and retained, and use some passenger surveys and a statistical model to work out the revenue share. Thereby reduce both the capital cost and the operating cost of interoperable ticketing. At the same time, security managers, combating both fraud and errors in the system, must have the tools to switch on selective 100% collection, processing and retention of all information – for example, on an individual route, for specific classes of ticket or pass, or for individual ticket machines.



Events Diary		Email: chris.rodriques@terrapinn.com Website: www.cards-worldwide.com/cards_austr_2002	
July		September	
3 - 5	In-Vehicle Telematics, The Mayfair Conference Centre, London, UK IIR Conferences Tel: +44 (0) 20 7915 5055 Email: registration@iir-conferences.com Website: www.iir-conferences.com/telematics	4 - 5	SmartLabels 2002, Churchill College, Cambridge, UK IDTechEx Website: www.idtechex.com
August		9 - 10	Retail EPOS & Cards - Moving Towards EMV, The hatton, London, UK Andrew Gibbons SMi Conferences Tel: +44 (0) 20 7827 6156 Email: agibbons@smi-online.co.uk Website: www.smi-online.co.uk/retailpos.asp
19 - 21	Cards Australasia, Sydney Convention & Exhibition Centre, Darling Harbour, Sydney, Australia Chris Rodrigues Terrapinn Tel: +61 2 9210 5756	16 - 18	e-Safety Congress and Exhibition, Lyon, France



There are analogies here with other business processes:

- monitoring the physical money supply (the number of notes and coins in circulation)
- operating accounted electronic purse schemes
- operating credit card schemes

In monitoring the physical money supply, banks are interested mainly in (a) detecting counterfeit operations, and (b) assessing the amount of physical money destroyed or irretrievably lost. As everyone knows from personal experience, banks do not have any way of monitoring the movement of notes and coins from hand to hand. All they can reasonably monitor is bank deposits and withdrawals, but they have developed sophisticated methods of using that information.

Electronic purse schemes fall into two classes:

- unaccounted schemes (such as Mondex) use traditional bank methods of monitoring as for notes and coins, but could also (without cardholders' knowledge) introduce the collection of transaction records for selected transactions (such as high value transactions) – there could be a mechanism for these records to, perhaps slowly, find their way back to the issuing bank
- accounted schemes make a record of every transaction – even though such schemes are fairly ruthless about minimising the amount of data actually processed and retained, the operating cost makes these schemes unattractive to would-be promoters except in special cases

Credit card schemes operate on the basis that every transaction is recorded on the cardholder's monthly account, and the consequence is that high transaction charges are levied on the merchants. High volumes of low value transactions are therefore discouraged – the card companies accept only those merchants whose transaction profile and willingness to pay the transaction charge fits the scheme's business requirements.

Public transport schemes have historically operated with high value, long life, but allegedly easily saleable assets (a new low floor double deck bus is widely said to cost £170,000, but can be capitalised and has a significant resale value) and the lowest possible cost of consumables (London Transport is believed to pay less than 1p for a paper magnetic stripe ticket). 70 passengers weigh about 5 tonnes and are carried on a bus weighing 12 tonnes empty, so the extra fuel used for each extra passenger is not very significant. This all allows the incremental cost of carrying an extra passenger to be minimised until the bus or train is full, and thereby maximises operating profit on each passenger carried. The introduction of ticketing interoperability will enforce some realignment of this basic model, but those changes are an inevitable consequence of the changes in society.

¹ ITSO is "Integrated Transport Smart Card Organisation", and is also used to refer to the UK company limited by guarantee, Integrated Transport Smart Card Organisation Ltd, charged with managing the ITSO Specification, with developing and making available ISAMs (ITSO Secure Access Modules) and associated security and certification services, and with licensing operators making use of the ITSO Specification. Membership is open to all organisations and individuals involved in public transport and associated services (e.g. car parking, taxis).

² The ITSO Specification is UK Crown Copyright, and is published and further developed by the ITSO management company under licence. IPR in the Specification is owned by the Crown. Adherence to the Specification is voluntary, but the UK government and Local Transport Authorities (PTA/PTEs and Local Authorities) are required as a matter of government policy to specify ITSO compliance for interoperable Smart Cards, tickets and passes in publically funded transport developments.

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<p>17 - 18 Carriers World Europe, Royal Garden Hotel, London, UK</p> <p>Jaimie Brook Senior Marketing Manager Terrapinn Ltd 2nd Floor, 100 Hatton Garden London EC1N 8NX UK Tel: +44 (0)20 7827 5952 Fax: +44 (0)20 7242 1508</p>	<p>19 - 20 eSmart 2002, Grand Hotel Aston, Place Masséna, Nice, France</p> <p>Astrid Cousin Eurosmart Rue Montoyer, 47 Brussels 1000 Belgium Tel: +32 2 506 88 68 Email: info@eurosmart.com Website: www.eurosmart.com and www.carriersworld.com/carrierseuro2002</p>





Why Tag Technology?

by Peter Harrop

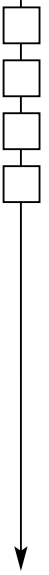
Given their narrow range of applications, it is commendable that contactless Smart Cards almost all work at one frequency - 13.56MHz - and there are global standards in use much of the time. By contrast, historians will have difficulty in explaining how, about 30 years after their invention, contactless versions only account for 5% of sales of Smart Cards. It does not matter too much with "fit and forget" applications such as SIM and television cards but with the majority of applications it leads to awkwardness in use and lack of reliability and claims that contacted versions are more secure or have lower cost of ownership are suspect. They have more ways in for the criminal not less and the most persistent breaches of security continue to be with television cards that have contacts.

Only in East Asia are there really beefy rollouts for contactless Smart Cards such as 970 million for Chinese adult identification and 60 million for Japanese railways. Even there, however, there is no prospect of the modern product taking the majority of the market in the foreseeable future. Perhaps the historians will deduce that it is a malign alliance of banks and unimaginative suppliers that is crippling the market. Even the global sales of around 125 million contactless Smart Cards this year are hopelessly fragmented with the largest supplier, Sony, only managing about 10 million. Everyone and his mother make the odd one to four million. Does that lead to the lowest cost quality product? Probably not.

Contactless Smart Cards are a form of Radio Frequency Identification RFID. This is the use of radio frequencies, or thereabouts, to read data remotely on small devices with few problems of mis-orientation or obscuration.

The situation with the other shapes is largely one of glorious anarchy. Frequencies from 3Hz to 25 GHz are used. Unlike Smart Cards, where most work at a few centimeters (ISO Proximity) and a minority work at a few millimeters (ISO Close Coupled) or one meter or so (ISO Vicinity) there are RFID tags variously read through paper at 40 micrometers range or, with battery boosting, read at 3 kilometers range. Do not think of battery-boosted tags as large, very expensive, clunky things any more. Some use two cent paper batteries and are the size of a postage stamp.

Some RFID tags do not even need a silicon chip, saving a great deal of cost and sometimes being very thin and rugged. "Chipless" RFID technology is rarely encountered in cards beyond secure access and then only for very close range but in the anarchic world of other RFID they are widely used from identifying underground pipes to tracking apparel. This is because newer versions are either one magnitude cheaper than chip tags and/or they have performance equivalent to or better than silicon. For example, Surface Acoustic Wave SAW tags have range up to 10 meters, very fast data transfer, up to 256 bits of data, ability to sense temperature and a working range of -100 to +300 degrees centigrade. All that for 10 to 50 cents in volume. Thus, although chipless RFID is responsible for only 2.5% of the RFID tag market today, IDTechEx project that it could be responsible for 30% in 2010 if standards are written or they are made to conform to at least some existing standards written around chip RFID. (SAW today and the polymer electronics transistor circuits to be offered in volume in 2005 should be capable of this).



Ask the Experts

Q: Is a 'chip card' different from a Smart Card?

A: The term Smart Card is usually meant to refer to a card with a microprocessor chip. 'Chip card' is used more generically to refer to any chip, memory or otherwise. If we want to be really correct we should use the term integrated Circuit Card (ICC) as used by ISO 7816. This refers to any contact card with memory or CPU.

The market place is very slack with its terminology and you will find Smart Card used when referring to any card with a chip. The term has even been

used to describe a magnetic stripe card.

Q: Is it possible for the ATR of a corrupted Smart Card to be reset?

A: The ATR may be stored in mask ROM or EEPROM. It would be unusual for the ROM to be damaged so most likely the ATR is in the EEPROM as part of the application. You would need to reload the application which is in general only possible with a multi-application card.

If it is only the ATR that is corrupted you could still use the card by ignoring the ATR and setting the software to the ISO 7816 defaults (e.g. T=0,



Meanwhile, the sales of chip RFID tags are robust and growing at double-digit rates. Innovision has sold 50 million the size of a postage stamp. These cost ten to thirty cents and most act as a feature of the Hasbro Star Wars toy. Sixty million car clickers/immobilisers are sold yearly thanks to Texas Instruments, Sokymat, and others. About 30 million RFID tags have been sold into libraries. Most of these big applications replace manual procedures or nothing at all - they make new things possible. Multiple paybacks are common. Is there a lesson here for the marketing of Smart Cards?

Some suppliers offer many shapes including Smart Cards. ASK France, Nedap in the Netherlands, and Hitachi, Mitsubishi and Miyake, Japan are among the many examples. They seek economy of scale and the ability to offer customers a full range of solutions. By contrast, some Smart Card suppliers have even divested tomorrow (contactless/RFID) and concentrated on yesterday (contact). The consequences may form case histories in management school of how to fail in industry.

The most popular operating frequency for RFID tags was 125-135KHz, which is economical for small orders, but it is now 13.56MHz, which gives a thinner tag that is economical for large orders. It also gives common cause with Smart Cards. However, UHF, a range of frequencies around 900MHz, permits the longest range within radiation laws of most countries. It permits faster transfer of data and location of tags can be achieved using a beam. Up to last year, such devices have been as large or larger than Smart Cards but this year, the availability of the new fractal antennas means they can even go in a bottle top. Consequently, IDTechEx forecast that UHF could become at least as big a market as 13.56MHz for RFID tags within a few years, with tens of billions sold yearly for vehicles, conveyances such as pallets, crates and totes, for airline baggage and for expensive products. Several companies such as Alien Technology of the US and Rafsec of Finland have substantial funds to create the 5 cent UHF tag working at 2-3 meters, 64/96 bit, that will make it happen. They have the support of the Auto ID Center headquartered at Massachusetts Institute of Technology MIT US and backed by the world's largest retailers, FMCG manufacturers, Philips and others such as the UCC.EAN alliance of standards bodies in the GTAG initiative. Note that Philips sees it all as one business, making the chips for cards and tags and leading the state of the art and new applications.

Are there lessons here for Smart Cards? Should there be a UHF Smart Card? Should there be an ultra low cost chipless Smart Card that works at one meter based on, say Checkpoint's "LC Array" ExpressTrak tag or the remotely rewriteable version from Navitas Japan? Should there be more substantial alliances of suppliers and users? Should there be big visions? Companies from Procter & Gamble to Tesco and Unilever are collaboratively funding work on the concept of a one cent tag uniquely identifying all FMCG and more and interrogated over the internet- "The Internet of Things". They dream of using 100 trillion every year and reducing counterfeiting, time to market, stocks, shrinkage and many other parameters by a factor of ten as a consequence. Trials are taking place. Extra paybacks are proving possible from new consumer propositions such as the microwave that "reads" the meal and therefore cooks it correctly. That has been demonstrated at MIT. What is the big vision for contactless Smart Cards? Should the industry be gobbled up by the gorillas emerging that make the other shapes?

For more, attend the world's largest conference on Smart Labels, Cambridge UK Sept 4-5 with tutorial/workshops Sept 6. See www.idtechex.com

<p>direct/inverse).</p> <p><i>Q: What are the leading standards for e-cash type applications?</i></p> <p>A: The main e-cash players are: Visa (Visacash), Mastercard (Mondex), Proton (PWI)</p> <p><i>Q: What are the current trends in Smart Card hardware?</i></p> <p>A: The hardware trend at the current time is towards 32 bit RISC machines based on the MIPS and ARM cores.</p> <p>From a multi-application software point of view JavaCard is in pole position with a little competi-</p>	<p>tion from MULTOS. Single application cards tend to have proprietary operating systems.</p> <p><i>Q: We use different types of cards and brands for card access control (SIMPLEX,IEI,HID). Is there one universal card that can be used with our different systems?</i></p> <p>A: Although you can use one card type to be ubiquitous in all your access control systems it is not possible to combine the different technologies on one card - or more correctly nobody makes such a card available. The problem is that most of these systems are proprietary. Moving to ISO 14443 compatible cards would solve your problem but you would have to change all your card readers.</p>
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Ask The Experts

by Dr David B Everett

Q: What are the important standards relating to Smart Cards?

A: For Contact cards ISO 7816 is the industry standard. The first five parts are not only the most stable but are the most important for interoperability.

ISO/IEC 7816 Identification cards - Integrated circuit cards with contacts

- Part 1: Physical characteristics
- Part 2: Dimensions and locations of the contacts
- Part 3: Electronic signals and transmission protocols
- Part 4: Interindustry commands for interchange
- Part 5: Numbering system and registration procedure for application identifiers
- Part 6: Interindustry data elements
- Part 7: Interindustry commands for Structured Card Query Language (SCQL)
- Part 8: Security-related interindustry commands
- Part 9: Additional interindustry commands and security attributes
- Part 10: Electronic signals answer to reset for synchronous cards

For more information, refer to www.iso.ch or www.iec.org

For Contactless Proximity cards (up to 10cm) ISO 14443 is the appropriate standard

ISO/IEC 14443 Identification cards - Contactless integrated circuit cards - Proximity cards

- Part 1: Physical characteristics
- Part 2: Radio frequency interface
- Part 3: Initialisation and anticollision
- Part 4: Transmission protocols

For more information, refer to www.iso.ch or www.iec.org

For contactless vicinity cards (up to 1 metre) ISO 15693 is the appropriate standard

ISO/IEC 15 693 Contactless integrated circuit cards - Vicinity cards

- Part 1: Physical characteristics
- Part 2: Air interface and initialisation
- Part 3: Anticollision and transmission protocol

For more information, refer to www.iso.ch or www.iec.org

The JavaCard standards are controlled by Sun

JavaCard 2.1.1 Application Programming Interfaces,
Language Subset, and Virtual Machine Specification
Programming Concepts

For more information, refer to <http://java.sun.com/products/javacard>

ETSI controls the SIM card standards

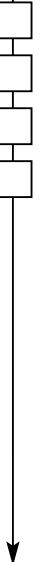
- ETSI TS 101 476 v8.2.0 (2001-06) SIM API
- ETSI TS 100 977 v8.5.0 (2001-03) SIM/ME I/F
- ETSI TS 101 267 v8.6.0 (2001-03) STK
- ETSI TS 101 180 v8.5.0 (2001-03) STK Security

Copies can be obtained from www.etsi.org

The EMV standards (Europay, Mastercard, and Visa) for Smart Card Payments are now managed by EMVCO

- Book 1 - Application independent ICC to Terminal Interface requirements
- Book 2 - Security and Key Management
- Book 3 - Application Specification
- Book 4 - Cardholder, Attendant, and Acquirer Interface Requirements

Copies can be obtained from www.emvco.com





Who's the Real Smart Card Market Leader?

French card manufacturers Gemplus and SchlumbergerSema both made claims to market leadership following publication of Gartner Dataquest's "Worldwide Chip Card Market Share, 2001: Card Vendors and Semiconductor Vendors" report.

Gemplus claimed a market-leading position for the fourth year running saying it led chip card shipments in 2001 with 594 million chip cards, securing it the leadership position with a market share of 30.4%.

SchlumbergerSema, however, announced that the Gartner Dataquest report confirmed its worldwide leadership position in the Smart Card industry by shipping 198 million Smart Cards last year, accounting for 29% of the world's total shipments. The company pointed out that the Gartner report defines Smart Cards as microprocessor chip cards, as opposed to memory chip cards and magnetic stripe cards.

In a Press statement, SchlumbergerSema rather pointedly said: "The Gartner report defines Smart Cards as microprocessor chip cards, as opposed to memory chip cards and magnetic stripe cards. Microprocessor Smart Cards offer exceptionally high levels of convenience, security and multi-application capabilities for their low cost, enabling corporations and government agencies to facilitate and protect new value-added services. Memory cards are limited to less complex uses, such as prepaid phone cards or basic loyalty applications, while magnetic stripe cards offer a basic level of functionality."

Jorgen Rasmussen, President, Cards, SchlumbergerSema, added: "The microprocessor cards are not commodity items like the other cards. They are the enabling technology for increasingly sophisticated electronic payment, communications and security applications. By this time next year, we expect half our Smart Card shipments to be multi-application cards that will leverage our systems design, integration and service solution strengths across the telecommunications, finance, corporate and government sectors."

Clare Hirst, analyst, Gartner Dataquest, said: "Worldwide Smart Card shipments reached 685.4 million units in 2001, up 10.4% over 2000. Shipments of microprocessor cards for the financial segment will increase significantly over the next three years, helping to drive growth for leading card producers that already supply to that sector. In 2001, SchlumbergerSema benefited from its strong shipments of financial applications and outperformed its competitors."

According to the Gartner Dataquest study, the EMV (Europay-MasterCard-Visa) platform is expected to be the key driver for widespread adoption of Smart Cards as banks begin to comply with EMV implementation requirements by 2005.

Back to Gemplus and Clare Hirst who commented: "Gemplus continues to play a leading role in the industry. Although this has generally been a difficult year for this sector, our analysis shows that worldwide chip card shipments grew 10.4%, and that Gemplus shipped more chip cards than any other player."

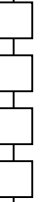
According to Gemplus, a key factor behind its dominance of the Smart Card industry lies in its close relationship with its clients and ability to meet their needs, especially in the telecommunications sector where, the company says, it "leads the field working with 90% of the world's top operators."

SCN asked Gartner Dataquest to clarify the situation. This is what they told us: "The study we do for chip card market share includes a vendor ranking for the chip card vendors whereby we rank total chip card, Smart Card and memory card. Total chip card comprises of Smart Card and memory card together.

"The Smart Card ranking refers to microprocessor cards. Indeed SchlumbergerSema leads this ranking, with shipments of 164.4m out of the total Smart Card market, which reached 685.4m in 2001.

"Gemplus leads the total chip card ranking, by virtue of additional memory cards the company produced during 2001. The company shipped 593.7m chip cards, out of a total market of 1952.2m chip cards in 2001.

"Therefore both companies take a leading role according to our rankings. However, they take a leading role of different rankings. In our rankings, Smart Cards are defined as microprocessor cards only. Gemplus may define Smart Cards as both microprocessor cards and memory cards combined, which we call total chip card."





Leverage Chip Migration to Deliver Consumer Fulfilment

Waqar Qureshi, Vice President, Visa International EU.

Chip migration will become business as usual over the next few years. Banks and Merchants are already asking the question "what happens next?" The United States and Asia Pacific are moving towards value added services driven by unique business opportunities. Europe is asking the question when and how can we exploit chip investment to leverage new business, given that the majority of European banks will have migrated to chip by Jan 2005.

Recent announcements about the grouping of loyalty points across multiple merchants and banks 'Nectar' could be the beginning of a new trend as private loyalty programs merge over time, resulting in regional or even global acceptance and redemption of points such as 'OneWorld', the airline loyalty program. Bank issued payment cards carrying chips could easily combine the additional functions of loyalty and value added services and create differentiated products resulting from co-operation between banks and loyalty operators to deliver services in the Fast-food, Transport, Retail and Government sectors without significant extra costs.

Banks want to leverage their cards for value added services, but cannot invest time, money and personnel resources to building value added programs, which as a consequence prove difficult to show create a return on investment. Issuer centric models require Issuers to assume new and unfamiliar roles that extend beyond their core competencies. Thus new operating models need to be developed which provide the framework to allow global use of value added services just as they are for EMV based Debit and Credit.

Delivering a global value added proposition requires the agreement of common standards and services, which are readily available from multiple vendors and are easy to integrate into the merchant's point of sale, while at the same time preserving the integrity of existing in-house loyalty programs. Such a standard would need to be available everywhere at once, much like EMV is today. Work is continuing on the delivery of such a common standard and it will not be too long before we will be carrying the ubiquitous multi-application card in our wallets. •

