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SMART CARD NEWS

September 2000

Volume 9
Number 9

*Subscribers will receive Boots' "**Advantage Card**" free with this issue of Smart Card News.*

Three Countries in CEPS Euro E-purse Pilot

Belgium, The Netherlands and Spain are to co-operate with Europay and Visa to offer e-purse interoperability in the first international pilot of CEPS (Common Electronic Purse Specifications)-based e-purse Smart Cards in mid-January 2001.

Banksys, CEPSCO Espanola, Europay International, Interpay Nederland, Proton World and Visa International are involved in the pilot which was announced at the Proton World Forum in Ghent, Belgium, earlier this month. The participants will use CEPS-based versions of existing e-purse Smart Cards - Belgian Proton cards, Dutch Chipknip cards and Spanish Visa Cash cards loaded with euros.

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The Proton Card in use

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GSM News Roundup

Guest Article

NB: Dr David Everett's "Briefing Notes on Multi-Application Smart Cards" will return later in the year.

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Telephone : + 44 (0) 1273 515651 • Facsimile : + 44 (0) 1273 516518 • General Enquiries : scn@pavilion.co.uk ISSN 0967 196X

Managing Director **Patsy Everett** patsy@smartcard.co.uk • Editor **Jack Smith** • Technical Advisor **Dr David B Everett**

General Manager **Tara Lavelle** tara@smartcard.co.uk • Marketing Manager **Albert Andoh** albert@smartcard.co.uk
Graphic Designer **David Lavelle** david@smartcard.co.uk • Customer Support **Amanda Pearce** amanda@smartcard.co.uk

Russian Agent : **Alex Grizov** Recon Company "Sport Hotel" 5th Floor Leninsky Prosp., 90/2 Moscow 117415 Russia
Telephone : +007 095 131 92 92 • Facsimile : +007 095 131 92 65 • e-mail : recon@ropnet.ru

Asian Agent : **J Clark** Telephone : +852 2987 8737 • Facsimile : +852 2987 8732 • e-mail : jvclark@asiaonline.net

India Correspondent : **Shailaja V.R.** e-mail : uipai@md2.vsnl.net.in

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

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CEPS Euro E-purse Pilot

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The first part of the pilot running from January to March will use around 400 cards which will be issued to employees of Banksys, CEPSCO Espanola, Europay, Interpay Nederland and Visa.The cards, loaded with real value euros, will be used at terminals in the offices of the participants in Brussels, Utrecht and Madrid and in a few dozen selected merchants. Transactions will be cleared through the existing clearing networks for domestic transactions, and through either the VisaNet network (for Visa Cash branded cards) or the EPSNet network (for Clip-branded cards) for international transactions.

The next phase, running from April to June will involve around 1,000 cards, which will be issued to selected existing e-purse cardholders in Belgium, the Netherlands and Spain and will involve a larger number of merchants. In both phases, cardholders will be able to load their cards and to make purchases both in their "home" country and in the two "foreign" countries, thus demonstrating the interoperability that CEPS offers to e-purse issuers.

Contacts

- **Marina De Moerlooze** Banksys
  ☎ +32 2 727 6822
  💻 marina.demoerlooze@banksys.be
- **Ms Dominique Hautain** Proton World
  ☎ +32 2 724 5111
  💻 info@protonworld.com
- **Stacey Torbit** Visa International
  ☎ +44 (0)20 7795 5390
  💻 torbits@visa.com
- **CEPSCO**
  💻 www.cepsco.com
- **Europay**
  💻 www.europay.com

Oberthur Endorses CALC Specs

Oberthur Card Systems is the first Smart Card manufacturer to endorse the Card and Application Life Cycle (CALC) specifications designed by Proton World as part of its new generation R4 technology. CALC is Proton World's implementation of the Open Platform specifications.

Contact

- **Julia Frost** Oberthur CS
  ☎ +33 (0)1 41 25 29 44
  💻 J.frost@oberthurcs.com

Three Dollar Multi-application Card

Gemplus, Sun Microsystems and Visa International announced a three dollar Open Platform multi-application Smart Card at the GlobalPlatform press conference in Brussels, Belgium this month.

The new card, called GemXpresso Lite, is compliant with Open Platform 2.0 and Java Card 2.1 specifications and is available now to Visa member banks that wish to introduce a multi-application Smart Card program.

A key benefit of the Open Platform is its dynamic downloading capability that enables applications to be loaded or removed securely from a card after it has been issued.

Gemplus says it has been able to reduce the price of the card by changing the chip memory. Java Cards would normally have 32K EEPROM and 32K ROM. GemXpresso Lite is based on a 16K EEPROM/48K ROM chip.

Visa's VSDC (Visa Stored Debit and Credit) EMV application can be installed in the ROM while the 16K EEPROM can host various combinations of applications such as loyalty, secure Internet access and electronic purse.

Contacts

- **Severine Percetti** Gemplus
  ☎ +33 (0)4 42 36 67 67
  💻 Severine.percetti@gemplus.com
- **Michael Shuster** Sun Microsystems
  ☎ +1 408 517 6820
  💻 michael.shuster@eng.sun.com
- **Colin Baptie** Visa International
  ☎ +1 650 432 4671
  💻 cbaptie@visa.com

Collectors' Corner

This month's Collectors' Corner Card is the Boots Advantage card supplied to us by ORGA the Smart Card systems integrators.

ORGA recently won the contract to supply up to eight million Smart Cards to Boots The Chemist and will be the sole supplier of the Boots Advantage cards for a minimum of three years. Some 12 million Advantage cards have been issued since the national roll-out of the loyalty scheme in August 1997, three years ago.

Internet Identity Authentication

Litronic, a provider of Public Key Infrastructure (PKI) based Internet security solutions, has announced two additional biometric identification capabilities combined with digital signatures and Smart Cards, enabling stronger identity authentication for data security applications.

In addition to the company's recently demonstrated iris scan technology, users can now evaluate voice or handwritten signature recognition for authentication when digitally signing a document or obtaining access to secure Web pages.

Bill Holmes, Vice President of Marketing for Litronic, said: "By combining several forms of biometrics with PKI and Smart Cards, we have increased the number of practical applications of this technology in corporate environments."

Using Microsoft Windows Powered Smart Cards, Litronic is integrating technology from three developers to implement biometric recognition with PKI. Sensar's camera is being used to deliver iris scan biometrics, CyberSign is used for handwritten signature recognition and Voice Security Systems for voice verification.

Contact

- **Gina Ray**
  ☎ +1 949 833 8006
  gray@topr.com

EMV Certification for Card Reader

Mag-Tek has gained EMV (Europay, MasterCard, Visa) Level 1, Version 3.1.1 certification for its IntelliStripe 65 magnetic stripe and Smart Card reader. This interoperability standard for Smart Cards, guarantees that any EMV-compliant Smart Card will be accepted by the IntelliStripe 65.

IntelliStripe 65 is a manual insertion reader that can be customised for unattended self-service applications such as payphones, vending machines, ATMs and kiosks. It will read up to three tracks of the magstripe, read and write ISO 7816, T=0 and T=1 microprocessor cards, as well as a wide range of memory cards.

Contact

- **Patrick Oven** Mag-Tek
  ☎ +1 888 624 8350
  www.magtek.com

Patent Infringement Trial

The Federal Court of Australia has rejected Catuity Inc's attempt to hive off part of the patent infringement proceedings it is currently defending. Welcome Real-Time, a leading Smart Card software solution company, issued patent infringement proceedings against three Catuity group companies on 20 July, 2000. Welcome's Patent covers its Smart Card technology.

Catuity had applied to the Court asking whether it would hear the issue of infringement as quickly as possible and delay all other issues in the litigation (including whether the patent was valid) until later.

Justice Heerey did not consider that Catuity's application was appropriate and ordered that Catuity pay Welcome's costs.

The trial will take place in March 2001.

Contact

- **Debra Montner** Montner & Associates
  ☎ +1 203 226 9290
  dmontner@montner.com

Watermarking for GSA Smart Card

Digimarc Corp. says that its Identity Document Mark product has been selected as a component of the US General Services Administration (GSA) project to develop a Smart Access Common ID Card system. Digimarc is participating in the project as a sub-contractor to Logicon.

Digimarc's digital watermark technology enables imperceptible digital watermarks, called Identity Document Marks, to be added to Smart Cards and other documents without requiring extra on-card storage resources or changes in card design. Identity Document Marks are machine-readable, enabling authentication and verification of the document. When applied to ID cards, these marks are a deterrent to photo swapping and data alteration.

As part of the project, Identity Document Marks will be offered as an additional security feature for the Smart Cards issued by the departments of the federal government.

Contact

- **Leslie Constans** Digimarc
  ☎ +1 503 495 4568
  lconstans@digimarc.com

Chip Program to Include Digital ID

MasterCard International has expanded its Chip Vendor Services Program (CVSP) through the formation of a new subgroup focused on the development and global deployment of digital ID-based Smart Card applications to authenticate cardholders in mobile and electronic commerce transactions.

Art Kranzley, MasterCard's Senior Vice President, Electronic Commerce and Emerging Technologies, said: "By issuing a multi-application Smart Card that includes a digital ID, as well as financial service applications, banks will be able to position themselves at the forefront of technological innovation."

Companies already committed to joining the new program include: SecureNet, ACI Worldwide, Bull Smart Cards & Terminals, CMG, CardsEtc., Dione, Giesecke & Devrient, Gemplus, ICL, Schlumberger and Unisys. It is anticipated that other vendors will join the group as it evolves.

Contact

- **Christina Costa** MasterCard
  ☎ +1 914 249 4606
  💻 christina_costa@mastercard.com

ACI Mondex Solution in Venezuela

Mondex Venezuela is to use ACI Worldwide to provide Mondex system solutions and supply back office and card management solutions to create a Mondex Smart Card processing infrastructure.

Mondex Venezuela - a consortium formed by Banco Mercantil, Banco Universal, Banco Union, Consorcio Credicard, Banesco, Banco Universal and Inter Bank - will use the ACI solutions to enable existing and future members to handle Mondex value and risk management services. The system will have the ability to handle Mondex Smart Card processing through traditional ATM and POS channels, as well as Mondex value transfer and customer service via the Internet.

Contact

- **Gene Hinkle** ACI Worldwide
  ☎ +1 402 390 8906
  💻 hinkleg@tsainc.com
- **Arelys Perez** Mondex Venezuela
  ☎ +582 952 0831
  💻 arelysperez@mondex.com.ve

Strong Q2 Growth for Keyware

Keyware Technologies, a provider of biometric authentication software solutions, has announced that revenues for the second quarter ended 30 June, increased 493% to US $4,665,000, up from US $787,000 for the second quarter of 1999.

Francis Declercq, Keyware's CEO, said: "This quarter included a significant OEM agreement with Proton World and an agreement from Litton PRC to use Keyware's biometric technology for future US government Smart Cards. Keyware also completed two acquisitions this quarter: one of Belgium-based Smart Card software provider, Alacarte Engineering; and the other of US-based Internet and e-commerce software provider, Newton Online Business Solutions."

Contact

- **Philip Devine** Keyware Technologies
  ☎ +32 2 721 4574
  💻 investor@keyware.com

B2B Transactions for Chinese.com

Smart Card software developer Leapfrog Smart Products and Chinese IT company TOP Group, have established a joint venture, to be known as China Capital Ventures (CCV), that will own and operate www.Chinese.com to utilise the Internet security Smart Card system developed by Leapfrog.

The agreement gives Leapfrog 49 per cent of Chinese.com for business-to-business transactions to and from Chinese businesses.

Contact

- **Dale Grogan** Leapfrog Smart Products
  ☎ +1 407 838 0400
  💻 daleg@leapfrog-smart.com

Award for Schlumberger

Schlumberger Network Solutions has been honoured for the second consecutive year with CIO magazine's 2000 CIO-100 award for its innovative and sophisticated approach to customer service in the Technical Services category.

Contact

- **Emily Hall** Schlumberger
  ☎ +1 408 586 6553
  💻 ehall@san-jose.tt.slb.com

iBanking for the Internet

Oasis Technology, G&D Security Card Systems (G&D SCS) and CIT, a division of Silverline Technologies, have announced an Internet banking solution using Public Key Infrastructure (PKI) security on a Smart Card.

Called iBanking, the companies say it will dramatically enhance the way today's on-line banking transactions are made across a wide range of mobile and Internet-enabled computing devices.

iBanking is designed to provide a full range of retail, corporate and investment banking services protected by PKI security. In combining Oasis' ePayment technology, CIT's PKI-based security architecture and G&D's Smart Card infrastructure, iBanking is said to bring retail and corporate customers a new level of confidence when exchanging financial information online.

"The security benefits of Smart Cards for merchants and consumers alike are becoming more and more important as the number and value of online transactions increase," said Ashraf Zaki, President of CIT. "iBanking takes security to another level by introducing Smart Card authentication to verify the identity of customers and financial institutions engaging in Internet banking transactions, plus providing signing and non-repudiation for all transactions."

Contacts

- Oasis - www.oasis-technology.com
- G&D - www.gieseckedevrient.com
- CIT - www.citglobal.com

Amstrad Digital Set Top Box

Amstrad has announced that it is the first company to receive full type approval from BSkyB for its new DRX200 Digital Set Top Box incorporating the new ST5512 chipset. The unit utilises a shrunken chipset, which incorporates MPEG decoder and PAL encoder.

Sir Alan Sugar, Chairman of Amstrad, said: "We already have an order book taking us well into next year."

Contact

- **Nick Hewer** Amstrad
  - ☎ +44 (0)20 7836 6801
  - hewer@amstrad.com

Was the Egg Cracked?

Egg, the Internet Smart Card banking operation owned by the Prudential, has been under investigation by the UK's National Crime Squad (NCS) who believe it may have been the victim of an online fraud attempt. The NCS arrested three men and later released them on bail without charge pending further inquiries.

The NCS said: "Our inquiries indicate that it is possible that other Internet banks, which we are not prepared to identify, may also have been victims of similar fraud."

However, Egg, which has over one million customers, claimed the alleged fraud was detected before any losses were incurred by the bank or its customers. It said it had detected people making multiple account applications but its security remained unbreached and no customer money had ever been at risk. Egg said the accounts might have been opened for the purpose of taking out loans that would not be repaid.

Other sources suggested that some accounts might have been used for money laundering.

Police insisted some money had been stolen although not a vast amount.

All in all, uncertainty about security is not good news for the UK High Street banks currently trying to encourage customers to use online banking services.

Oberthur Secures Chip Supply

Oberthur Card Systems has announced a 150 million Euro contract with Infineon Technologies guaranteeing supply to Oberthur in 2001 a minimum volume of chips.

The company has also formed a long-term, technological alliance to work in partnerhsip with Infineon for research, development and marketing of products and Smart Card technology solutions worldwide.

Contact

- **Stephanie de Labriolle** Oberthur CS
  - ☎ +33 (0)1 41 25 28 42
  - s.delabriolle@oberthurcs.com

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Smart Mouse Pad System

A new Smart Mouse Pad System that makes surfing and shopping the Internet easier, was launched by mysmart.com on 3 September. The system consists of four distinct offerings: the mysmart pad with customisable buttons and interchangeable inserts; the mysmart key card with embedded Smart Card technology for heightened security; the mysmart assistant which helps users navigate the Web and personalise their mysmart pad; and the low cost mysmart ISP.

The mysmart pad includes a card with a memory chip that provides secure access to the mysmart pad and retains useful information like passwords, favorite Web sites and billing information. Because the card can store personal information, users can take advantage of the "express checkout" feature when purchasing from the Web, saving time by minimising the need to re-enter credit card and shipping information.

The mysmart key card also makes the mysmart pad portable. When the mysmart key card is inserted into any mysmart pad and the user enters their password, the pad is immediately reprogrammed to reflect that user's stored Web sites and personal information.

The mysmart pad will be available at an MSRP of $19.95 at CompUSA stores nationwide and on the mysmart.com Web site (www.mysmart.com). Customers will have the option to sign-up for the mysmart ISP for $9.95 per month.

Contact

- **Tom Evans** MS&L Global Technology
  ☎ +1 805 230 8208
  💻 tevans@msltech.com

NanoPierce Order in Poland

NanoPierce Card Technologies GmbH has received an order to develop software for coding chip cards from OTO Lublin, a central business division of the Polish Telecommunications Service (TP S.A.).

Scheduled to last approximately six months, the project involves the first phase of a software expansion for the existing automatic personalisation systems at OTO Lublin to provide greater flexibility and to enable new applications for coding chip cards.

"This project gives us the opportunity to extend our activities in the field of Smart Card/Smart Label initialisation and personalisation," said Dr Michael E Wernle, President & CEO of NanoPierce Card Technologies.

The chip card production plant in TP S.A. OTO Lublin began operation in 1997 and currently specialises in chip card production and chip card coding using modern production equipment with a capacity of over 20 million cards per year.

Contacts

- **Michael Wernle** Nanopierce Card Tech.
  ☎ +49 8102 8961-0
  💻 michael@nanopierce.com
- **Miroslaw Kulpa** TP S.A. OTO Lublin
  ☎ +48 81 5244-590
  💻 kulpam@zt.lublin.tpsa.pl

Gemplus EMV Package

Gemplus has joined the Visa Smart Partner Program and created a special package that will boost Visa member banks' migration to chip-based debit and credit cards. The package combines consulting services, a PC-based personalisation tool and Gem Vision cards, Gemplus' debit and credit cards.

Visa has been negotiating a number of special deals for its member banks with Smart Card and terminal manufacturers and systems providers. The Gemplus package, called GemVision Pack, will be available at a reduced price for the first 10 banks to sign up to the programme in the next six months

Contact

- **Suzanne Christopher** Brodeur Worldwide
  ☎ +44 (0)1753 790700
  💻 schristopher@uk.brodeur.com

Securant Partners with Baltimore

Securant Technologies has partnered with Baltimore Technologies and, through the Baltimore PKI World program, will deliver integrated solutions for protecting eBusiness resources based on the award winning ClearTrust SecureControl access management system and Baltimore UniCERT Certificate Management system.

Contact

- **Marc Gendron** Gendron Public Relations
  ☎ +1 781 237 0341
  💻 marcgendron.pr@worldnet.att.net

Curitiba Smart Card Centre

Schlumberger is establishing itself in Brazil with the opening of its first South American Smart Card plant in Curitiba and turning the city into one of the first in the world to use Smart Cards to replace cash in day-to-day transactions.

Located in Pinhais, in the metropolitan region of Curitiba, the plant aims to meet national and regional Smart Card demand. Schlumberger says it aims to establish market leadership in Brazil within three years and is working with banks and credit card administrators to facilitate the migration process from magnetic stripe cards to Smart Cards.

"Smart Cards will grow exponentially from the current base of 160 million cards in use in Brazil today as new applications come on stream," said Uwe Lüdke, Schlumberger's Sales Director in Brazil. "The banking sector alone will grow 20% per year in the short term. By the end of 2000, Schlumberger estimates that there will be 800% growth in the Smart Card installed base in the country."

The manufacturing plant resulted from an initial investment of US $5 million and has been installed in the existing Cardtech facility in which Schlumberger purchased an 80% equity stake in 1999. The plant has been completely renovated to establish high security standards and to incorporate state-of-the-art technology to produce both memory and microprocessor cards.

Smart Card city

Curitiba citizens use Schlumberger's Easyflex City dual interface (contact and contactless) Smart Card to pay for shopping in drugstores and supermarkets or travelling on buses and for salary advances. The card is also replacing the traditional identification badges used to allow access to buildings and offices.

The use of Smart Cards to support public and private services was first introduced in Curitiba at the end of 1997. At that time, 5,000 local government employees received Smart Cards to be used as their professional ID card, for programmed shops in supermarkets and for loans deducted from their salaries.

Today 30,000 people use the card and an additional 180,000 employees from the state government will soon also benefit from this system.

By mid-2001, over 2,500 access-points in the transportation system will be connected to the Smart Card network. Passengers who do not have the functional Smart Card ID will be able to buy the card at news stands and terminals. Initially there will be around 500,000 cards and this number will increase during the transition from the present tickets to Smart Cards.

"The Easyflex City card can support multiple applications, and so it is the ideal tool to integrate electronic purse and other services," said Uwe Ludke, Schlumberger Commercial Director in Brazil.

Patients at county health offices will use the card, which will store all data resulting from examinations and consultations. Benefits such as meal tickets will be integrated within the card and parking will also be paid with it. Several projects to add new services to the card, such as its use in gas stations and restaurants, are under analysis.

Contact

- **Dirk Hinze** Schlumberger
  ☎ +33 (0)1 47 46 79 50
  hinze@montrouge.tt.slb.com

Atmel to Buy $40m Wafer Probers

Electroglas, a supplier of essential process management tools for the semiconductor industry, has announced a volume purchase agreement valued at $40 million with Atmel Corporation.

Under the three-year agreement, Electroglas will supply 4090(mu) wafer probers to several Atmel facilities, including the new fab in Irving, Texas, where the first probers are expected to be installed in Q3 of this year.

The 4090(mu) probers will include some with SMIF interfaces for clean, seamless wafer transport. Atmel will use the machines for testing flash memories and for the testing of very thin die for Smart Cards and other applications.

Besides the Texas site, Atmel will purchase probers for plants in Colorado Springs, Colorado; Rousset, France; and East Kilbride, Scotland.

Contact

- **Jeff Hintzke** Electroglas
  ☎ +1 408 528 3000
  jhintzke@electroglas.com

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Toolkit Launch and New Web Site

This month sees the release of the Smart Card News Multi-application Toolkit and the revamp of the SCN Web site at www.smartcard.co.uk

The multi-application toolkit has been developed by Jon Barber of Microexpert Ltd, sister company to SCN, to work alongside tutorials that are found in this newsletter. The tutorials, written by Dr David Everett, an internationally recognised authority on Smart Cards and security issues and SCN's Technical Advisor, explains how to prepare a simple application for a multi-application Smart Card. In particular, they will demonstrate the loading, installation and operation of the application.

To enable readers to follow this process, SCN is making available a development toolkit with a number of different multi-application cards. The first development kit, available now, consists of a Schlumberger Java card V2.1, a Towitoko Smart Card reader (the Gemplus PCMCIA reader is also available as an optional extra) and a CD ROM containing the software to manage the card application life cycle.

Dr Everett said: "The objective is not to teach Java or any other programming language, but to explain a few chosen modules to gain experience in the concepts behind setting up and using a multi-application Smart Card."

The toolkits cost £250 to full subscribers or £550 to non subscribers (plus VAT where applicable).

Visit www.smartcard.co.uk to order your toolkit and to see our new Web site.

Contact

- **Tara Lavelle** Smart Card News Ltd
  ☎ +44 (0)1273 515651
  💻 tara@smartcard.co.uk

Face Recognition for GSA Card

eTrue, which offers the first biometric authentication service that is outsourced over the Internet, has announced that its TrueFace face recognition technology will be used in the General Services Administration's (GSA) Federal US government-wide Smart Access Common ID Program. TrueFace will be provided through Logicon, an eTrue partner, which specified TrueFace in its winning bid.

eTrue's TrueFace technology will also be supplied through another eTrue partner, SAFlink Corporation.

Contact

- **Henry Kunicki** eTrue
  ☎ +1 508 303 9901, ext 238
  💻 hkunicki@etrue.com

Bluefish Makes Germany its HQ

Bluefish Technologies, a new Smart Card company launched in the UK last May, and focusing on wireless telecommunications, has opened new head offices in Paderborn, Germany which will be the administrative centre of its operations along with sales and engineering fuctions. The Reading, UK, offices handle marketing, additional sales, application development and QA.

Contact

- **Scott Allen** Bluefish Technologies
  ☎ +44 (0)118 965 3875
  💻 scott.allen@bluefish-tech.com

G&D certified for VSDC

Giesecke & Devrient (G&D) has announced its new standard Smart Card for Visa's smart debit and credit programs (VSDC). The card is based on the internationally recognised EMV specifications created by Europay, MasterCard and Visa and now controlled by EMVCo, a joint working group of the three financial service organisations.

Contact

- **Anette Zinsser** Giesecke & Devrient
  ☎ +49 89 4119 1235
  💻 www.gieseckedevrient.com

Ingenico Fortronic £10m Turnover

Payments solutions provider Ingenico Fortronic has announced revenues in excess of £10 million - up 129% - for the first half of the year 2000. As part of Ingenico's growth strategy £400,000 has been invested in the redevelopment of its UK head office in Dunfermline, Scotland, with plans to allow space for up to 50 new staff over the next year.

Contact

- **Graham Wright** Ingenico Fortronic
  ☎ +44 (0)131 459 8800
  💻 info@ingenicofortronic.com

World's Smallest Satellite Phone

The Ericsson R190 Satellite phone - the smallest available worldwide - was demonstrated publicly for the first time at CommunicAsia 2000. The dual mode handset is designed to support the ACeS (Asia Cellular Satellite) service, as well as roam on GSM networks worldwide.

Weighing just over 200 grams, the R190 offers a "one phone" solution with a satellite/GSM antenna that functions in both satellite and GSM 900 mode. Once out of cellular range, the phone will automatically switch to satellite mode to send or receive calls, and will switch back to GSM when in GSM coverage areas.

Users can also replace the satellite antenna with a smaller, snap-on GSM only antenna which enables the phone to work as a regular cellular phone that can be used within GSM 900 coverage areas.

ACeS service, launching with retail pricing less than US $1.00 per minute, will be initially offered in eight licensed Asian countries covering a population of 1.7 billion, and negotiations are under way with additional countries.

The Ericsson R190 Satellite phone is expected to be launched in Indonesia next month, followed by a roll-out across Asia in the months following.

Contact

- **Ericsson Mobile Communications AB**
  - www.ericsson.com/pressroom
  - www.acesinternational.com

Nokia US $300m GSM Contract

Nokia has signed an agreement valued at US $300 million with SMART Communications for the expansion of its nationwide GSM network in the Philippines. Nokia will supply and install dual band GSM 900 and GSM 1800 equipment. It has already supplied its GPRS (General Packet Radio Service) core network to SMART, bringing packet data access to Internet content over the mobile network.

Contact

- **Nokia Networks**
  - ☎ + 358 9 5113 8193
  - nokia.networks@nokia.com

Flash Technology for SIM Card

Bluefish Technologies is taking advantage of the latest flash technology in part of its SIM card product range. Flash technology allows microchips to be programmed after production, enabling Bluefish to code SIM cards for different network operators on demand. This, the company says, will significantly improve time to market and provide greater flexibility in the supply of its SIM product line to GSM network operators.

Contact

- **Scott Allen** Bluefish Technologies
  - ☎ +44 (0)118 965 3875
  - Scott.allen@bluefish-tech.com

WAP Technologies for Russia

Mobile TeleSystems (MTS), a Russian provider of GSM 900/1800 mobile cellular communication services, and Port.ru, a Russian Internet company, are to develop WAP technologies in Russia.

They will integrate purchases made by MTS subscribers on Port.ru's e-commerce site, Torg.ru, into MTS's billing system, giving more than 770,000 MTS subscribers the ability to pay for goods and services either directly online or through their WAP phone using their MTS account.

Contact

- **Eva Prokofieva** Mobile TeleSystems
  - ☎ 7 (095) 921-3450
  - eva@mts.ru
- **Vera Kurochkina** Port.ru
  - vKurochkina@port.ru

Motorola Partners with Huawei

Motorola (China) Electronics and Huawei Technologies Co - a provider of integrated network infrastructure - have entered into a cooperative agreement in Shenzhen to jointly provide GSM equipment and end-to-end solutions in China and the Asia-Pacific region.

In China, Motorola provides GSM systems to 18 provinces and municipalities.

Contact

- **Roderick Kelly** Motorola
  - ☎ +1 847 632 6730
  - rkelly1@email.mot.com

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GPRS Contracts

Nokia is to provide its GPRS network to mobile operator Optimus in Portugal, integrating it into the existing Optimus GSM network for the roll-out of packet-based mobile Internet services to around 85% of the population.

Vodafone New Zealand is to implement the Nokia GPRS solution into Vodafone's commercial mobile network for commercial launch during Q4, 2000.

China's leading GSM operator, China United Telecommunications Corporation (China Unicom), has launched GPRS high-speed mobile data on China Unicom's network in Shenzhen. The network, enabled by the core GPRS solution supplied by Motorola and alliance partner Cisco Systems, is the first commercial GPRS system in Asia.

Motorola has also been awarded a contract for the deployment of GPRS on Mumbiai's BPL Mobile GSM network. It will be the first GPRS service in India's growing wireless market and will be enabled by Motorola and Cisco Systems.

The Nokia GPRS core network solution will be integrated into Cable & Wireless Optus' existing GSM 900 and 1800 network allowing the roll-out of packet-based mobile Internet services to subscribers across Australia.

Contact

- **Nokia Networks**
  - ☎ + 358 9 5113 8193
  - 💻 nokia.networks@nokia.com
- **Joe Arimond** Motorola
  - ☎ +1 847 632 3889
  - 💻 Jarimon1@email.mot.com

Application Development Center

Motorola is to establish its first US Application Development Center at Boynton Beach, Florida, in October to provide developers with application development support, training, technology certification and interoperability training.

The center will focus on cutting-edge wireless Internet-enabling technologies.

Contact

- **Suzanne Boggs Scherb** Motorola
  - ☎ +1 847 435 2517
  - 💻 suzanne.boggs@motorola.com

First CDMA Multimedia Chipset

QUALCOMM, a pioneer of Code Division Multiple Access (CDMA) digital wireless technology, has announced the early shipment of the MSM3300 Mobile Station Modem (MSM) chipset samples and system software.

MSM3300 integrates a SIM controller that enables a direct interface with SIM cards, providing CDMA handset manufacturers with the ability to allow a subscriber's identity to be stored in a single, removable card. This will make global roaming possible across CDMA or GSM networks and to countries using different frequencies by allowing users to exchange handsets while using the same identity card.

Contact

- **Anita Hix** QUALCOMM
  - ☎ +1 858 658 5879
  - 💻 ahix@qualcomm.com

Wireless Chip for the Internet

Israeli firm Connect One has announced the first off-the-shelf chip that provides embedded Internet connectivity for devices via wireless (GSM) communications modems. The iChip Internet Controller is a peripheral chip that works in tandem with a device's host processor to mediate the connection between the host CPU and the Internet.

Contact

- **Alan Singer** Connect One Semiconductors
  - ☎ +1 408 986 9602
  - 💻 alan@connectone.com

Eavesdrop-secure GSM Phone

Sectra Tiger, the first eavesdrop-secure GSM telephone, has been unveiled by Sectra Communications which claims to deliver about 85% of the Swedish Armed Forces' cryptographic equipment.

The company says that the Norwegian Armed Forces have ordered a new generation of Tiger and a commercial version has been ordered by several companies in the private sector.

Contact

- **Daniel Hultgren** Sectra Communications
  - ☎ +46 13 23 52 00
  - 💻 dh@sectra.se

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Smart Watch Technology

IBM, Philips Semiconductors and Junghans - the world's largest clock manufacturer - have announced the creation of a new smart watch by integrating the MIFARE PRO dual interface Smart Card controller IC and the IBM Open Platform/Java Card implementation with Junghans' radio-controlled, solar ceramic watch.

The companies say that the development brings watches into the area of open, multi-application IT use with convenient contactless operation for users.

Applications that may be loaded on demand to the watch, include electronic tickets, door keys, electronic purses and ID information.

Contact

- **Elisabeth Doerner** Philips Semiconductors
  ☎ +43 3124 299760
  Elisabeth.Doerner@philips.com

New members for ICMA

The International Card Manufacturers Association (ICMA), a non-profit association of card manufacturers and related industry participants, has announced 16 new members since last February.

Manufacturing members are: Magnetic Ticket & Label Corp., Tennessee, USA; Gemplus, Herne, Germany; Gemplus, Fuxi, Qianshan, Zhuhai Peoples Republic of China; Giesecke & Devrient, Australasia, Knoxfield, Australia; Logica Impresora, Barcelona, Spain; Plastic Graphic Co., Illinois, USA; Rosan Finance, Moscow, Russia; SSI Technology, Oklahoma, USA; Stralfors Card Solutions, Stockholm, Sweden; and YBL Co., Korea.

The four new supplier members are: CIM USA, Florida, USA; DIC Europe, Dusseldorf, Germany; Gilles Leroux, Semoy, France and Zeller-Gmelin Corporation, Virginia, USA.

Other additions are one contributing member - Asia Pacific Smart Card Association, Hong Kong, China - and one manufacturer representative/sales agent member - Associated Pacific Machine Corp., California, USA.

Contact

- **Lynn McCullough** ICMA
  ☎ +1 609 799 4900
  www.icma.com

easi Choice for Hotel Guests

Choice Hotels Scandinavia has launched an hotel loyalty Smart Card in partnership with easi Solutions, UK-based supplier of Smart Card driven guest room technology.

Members of the Silver and Gold Choice Club can obtain discounts on the e@si System which offers hotel guests a complete PC-based information, communications and entertainment system incorporating audio CD, e-mail, the Internet and Microsoft Office (Small Business Edition).

Ellen Stebekk, Marketing Manager for Choice Hotels Scandinavia, said: "By introducing Smart Card technology in the loyalty card, we open up all sorts of possibilities for offering integration with such other services as door keys, payment cards and, for our major corporate customers, we can provide access via e@si System to their own Intranet."

Contact

- **Alice More O'Ferrall** easi Solutions
  ☎ +44 (0)1235 467900
  Alice.more.oferrall@easico.com

EMV Approval for Thyron PayCell

Thyron has announced that PayCell, its mobile point-of-sale (MPOS) terminal has been granted EMV level 1 approval.

Peter Gee, Senior Vice President, MPOS Sales, said: "EMV Level 1 approval now means the product is fully enabled to be upgraded to Smart Card applications as and when the market requires it."

Contact

- **Norrie Blackeby** Thyron
  ☎ +44 (0)20 7440 6981
  norrie.blackeby@thyron.com

VeriFone Terminal EMV Certified

VeriFone's Omni 3350 Smart Card payment terminal has been granted EMV 3.1.1 certification. It also features a triple-track magnetic stripe reader.

Contact

- **Liz Attenburrow** Companycare
  ☎ +44 (0)118 939 5900
  LizA@companycare.com

Cartes Show to Break All Records

Cartes, the annual Smart Card Conference and Exhibition in Paris, is set to break all records this year. The biggest and most important show in Europe, Cartes will, for the first time, take up all four levels of the CNIT at Paris La Defense from 24-26 October.

This was announced by Veronique Sestrieres, General Commissioner of Cartes, at a Press conference in Paris this month. She said they expected 12,000 visitors from 120 countries compared with 10,513 visitors last year and 320 exhibitors from 29 countries (of which 44 per cent are new exhibitors) compared with 260 in 1999.

New exhibitors come from the following countries: United Arab Emirates, India, Japan, Poland, Morocco, Russia, Taiwan, Turkey and Venezuela.

"Seventy per cent of the visitors will make it the sole fair dedicated to the Smart Card that they will attend in the year and more than 40 per cent of them will come from abroad," she said.

Contact

- **Nathalie Boric** Cartes 2000
  - ☎ +33 (0)1 49 68 52 61
  - nboric@exposium.fr
  - www.cartesexpo.com

Nominees for SESAMES Awards

The SESAMES 2000 award nominees selected from 90 applications compared with 58 last year, will be announced on 24 October at the Cartes 2000 show in Paris. The nominees, announced at a press conference in Paris this month, are:

Best Transport Application - Ask (CTS e-Ticket), Gemplus (Multitrip Ticket) and Kent Kart Ege Elektronic Sanayi ve Ticaret Limited Sirketi (Automatic Fare Collection System through use of Smart Cards in Izmir, Turkey).

Best Banking/Finance Application - Gemplus (Gemplus Smart Card Management System) M2M Group (Magix Upsys) and Schlumberger (EMPS - Electronic Mobile Payment Services).

Best Health Application - Gemplus (Slovenie - Carte Nationale d'Assure Social) and Sephira (Intellio).

Best GSM Application - Horanet-Mobiex (GSM Mobiex), Orell Fuessli Security Documents S.A. (Egis Easy GSM Identification System) and Schlumberger (Simera Gait & Simera Airflex).

Best E-commerce Application - Gemplus (Gemplus Utilities), Visa EU Region (Three Domain SET Implementation Package) and Bantry Technologies (CEPS dual-slot based load and payment).

Best Loyalty Application - Gamut Interactive (The Gamut), Xiring and Agys (Groupe Cofinoga) (Citizen reader) and Multimedia Securite (ItAchat).

Best Identification/Security Application - Cyber-comm.com (the Cyber-comm solution), Vasco Data Security (Digipass 800) and Xiring (Smart Miles Management).

(One of the above seven applications will be voted the Best Application 2000)

Best Cards for @Secure Net Application - Oberthur Card Systems (AuthentiC Mobile), Schlumberger (Cryptoflex e-gate) and Xiring (Blue Tooth Secured Reader).

Best Technological Innovation -Bull CP8 (Oversoft Technology-iSimplify!), Xiring (with la Société Belge LH Electronics) (XI-Voice) and Ericsson Radio Systems AB (Ericsson Wireless Wallet EW2).

Schlumberger Teams with PCS

Schlumberger has teamed with PCS Innovations (PCSI), to create OASYS. Based upon the PCSI mobileMAGIC software platform, it incorporates the features and security systems in Schlumberger's Simera SIM (Subscriber Identity Module) card.

OASYS will enable operators to deliver value-added services to GSM and TDMA (Time Division Multiple Access) wireless customers. It will be available in Q4 on Windows NT and Q1, 2001 on Sun Solaris servers.

Contact

- **Emily Hall** Schlumberger
  - ☎ +1 408 586 6553
  - ehall@san-jose.tt.slb.com
- **Kimberley Emmerson** PCS Innovations
  - ☎ +1 416 599 3700 ext. 725
  - kimberley.emmerson@pcsinnovations.com

Ready for Red-e?

ACI Commerce, the Smart Card business unit of ACI Worldwide, has unveiled Red-e - a new standard platform for multiple Smart Card applications.

Red-e is billed as the ideal of one flexible card that can support any function a user wants - such as credit card, access/membership card, electronic wallet, health record and register of personal details.

Speaking at a Press preview for the 24-26 October Cartes 2000 show in Paris, Graeme Ward, Chief Strategy Officer for ACI Commerce, said: "What has been holding everyone back is the incompatibility of many applications and management systems. But Red-e sits above the operating system and binds them together in a secure environment."

He added that in the future, both businesses and their customers will know that when they see the Red-e logo on a card or terminal that they are using the safest, securest, most advanced technology available.

The main benefit to Red-e cardholders is convenience - multiple functions can reside on one card, and the cardholder can add or delete any applications. For example, when a family moves, they can use the multipurpose Red-e card to add a loyalty scheme for a store group in their new home town.

For card issuers, there is the prospect of increasing business by making the card a gateway to a wide range of services.

Contact

- **Julian Haslam** ACI Commerce
  ☎ +44 (0)20 7923 6938
  haslamj@tsainc.com

HyperSecur Deal With Cherry

HyperSecur Corporation has signed a non-exclusive reseller agreement with Cherry Electric Products enabling HyperSecur to re-sell the Cherry Smart Card and biometrics Keyboard products worldwide.

Contact

- **John Haggard** HyperSecur Corporation
  ☎ +1 708 798 9405
  Investors@HyperSecur.com

Contactless AFC for Istanbul

ACG AG, a high-tech broker with headquarters in Wiesbaden, Germany, will supply MIFARE contactless Smart Cards and readers for the metro and bus network in Istanbul, Turkey. The agreement is valued at more than US $5 million.

The Smart Card broker and its newly-founded branch, ACG-Istanbul, will supply over two million MIFARE contactless Smart Cards from Philips and 6,000 contactless readers from the system modules of Omnikey - 51% owned by ACG. The system broker United Access AG supplied the technical know-how.

The Istanbul city administration will convert the access system for the metro, buses and water buses to contactless MIFARE cards over the next two years.

Contact

- **Ariane Heim** ACG
  ☎ 0611 1739 125
  aheim@acg.de

Oberthur Contract in China

Oberthur Card Systems has been awarded a contract to supply SIMphonIC 32K cards to Companhia de Telecomunicações de Macau (CTM), China, for a mobile banking application.

Contact

- **Deborah Bertrand** Oberthur CS
  ☎ +33 (0)1 41 25 29 21
  d.bertrand@oberthurcs.com

5thSense Combo from Veridicom

Veridicom, developer of fingerprint-based e-business authentication devices, has unveiled a PC peripheral to combine a Smart Card reader with its fingerprint sensor into a single device no larger than a computer mouse.

The 5thSense Combo peripheral makes it convenient to use multi-factor authentication with a Smart Card by replacing passwords and PINs with simple "just-press-here" fingerprint authentication.

Contact

- **Karla Falat** Veridicom
  ☎ +1 408 565 6060
  karla@veridicom.com

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New US Headquarters for G&D

Giesecke & Devrient (G&D), based in Munich, Germany, officially opened its new American headquarters in Dulles, Virginia, last month.

The new 134,000 square foot facility is three times the size of its former Reston, Virginia, headquarters and integrates manufacturing, R&D and service capabilities under one roof as well as corporate administration, sales and marketing and a training and demonstration center for G&D America's Currency Automation and Card and Card Systems divisions.

The Card and Card systems division produces cards, components and multi-function Smart Card systems and includes an R&D team providing custom solutions. G&D America also has production facilities in Cleveland, Toronto, and Mexico City.

Contact

- **Heather Klein** G&D America
  ☎ +1 703 480 2000
  heather.klein@gdai.com

First Clear Chip Card

A new chip credit card, molded of clear plastic, will soon be making its way to American homes.

David Alvarez, head of Providian's Integrated Card Business, said: "The new Providian Visa card is the next generation in credit cards, providing a clear, cool look, and Smart Card chip technology."

The new card stores customer identification and account information on an 8K EEPROM chip with 8K RAM and 24K ROM as well as on a traditional magnetic stripe that ensures acceptance online and at all Visa merchant locations. In addition to the usual cash access, debit and credit card functions, the new card, when fully enabled, could also serve as a telephone calling card or electronic ticket.

Providian has teamed up with Colorado Plasticard Corporation, which has a patent-pending process to "colour" the clear card plastic with Stealth technology-developed ink. This special ink permits the card to be clear, but readable by ATMs.

Contact

- **Alan Elias** Providian
  ☎ +1 415 278 4189
  alan_elias@providian.com

People on the Move

Lifestream Technologies, developer of the first "at-home" cholesterol testing monitor with embedded Smart Card reader, has appointed **Edward R Siemens** as Chief Operating Officer. Previously he was Presi-dent of Omron Healthcare.

Nanopierce Card Technologies has appointed **Richard Berger** to its software development group. Previously he worked at Muehlbauer AG, Meinen, Ziegel & Co., and recently at Varetis.

Colin Phillips has been appointed Sales Director of Dione, UK manufacturer of EFTPOS and Smart Card terminals. He was Retail Director of Olivetti before joining Dione as a main board director.

Bull has appointed **Colin Scott** to the newly-created position of Vice President of Business Development for its North American e-business unit.

Motorola has promoted **Fred Shlapak** to Executive Vice President and President of the Semiconductor Products Sector (SPS) from Senior VP and assistant to the SPS President. He replaces **Fred Tucker**, who served as Interim President following the departure of Hector Ruiz earlier this year, and who will continue his duties as Executive VP and deputy to the Chief Executive Office. **Bill Walker**, Senior VP has been promoted to General Manager from Director of SPS' Order Fulfillment Organisation.

Bluefish Technologies, the recently formed Smart Card company, has appointed **Paul McKenzie** as Operations Manager, and **Declan Taylor** as Sales Manager. **Mark Castle**, until recently General Manager of ORGA Card Systems' Middle Eastern and Indian operations, has been appointed International Development Director.

Amino Communications has appointed **Jane Jee** as Director of E-services. Previously she worked at Mondex International and at Access.

Proton World has announced the appointments of **Yves Bouguiaux** as Vice President, Product Development, and **Guy Verniers** as Vice President, Europe, Middle East and Africa Sales.

Oberthur Card Systems has named **Ken Blakeley** as Chief Financial Officer for consolidation of all financial activities in the US. Previously he was a financial manager for Atlantic Richfield Company.

Your Voice: Your Smart Password

Domain Dynamics has put speaker verification on standard Smart Cards using its tiny-footprint TESPAR technology. The company has demonstrated voice authentication that both runs the verification code and stores the user's voice template on Smart Cards and is now looking for partners to license its technology and bring real security to remote Smart Card transactions.

"We have startled many industry experts with the power and compactness of our patented TESPAR technology and its suitability for use with standard Smart Cards," said Ian Taylor, Director, Domain Dynamics. "TESPAR-derived algorithms require only a tiny amount of space - working alongside other applications even on a standard 8 bit Smart Card - to verify the key characteristics of an individual's voice."

A template created from enrolment samples of the cardholder's voice is stored on a standard 8 bit, 8K byte Java Smart Card. In the transaction process, the cardholder inserts the card into the terminal and gives a speech sample. A verification Applet implemented in Java byte code then runs on the Smart Card to determine if the new live voice template matches the information on the card.

The verification process takes only milliseconds, while enrolment requires as few as three speech samples and takes about two minutes. Security levels can be adjusted to suit specific requirements through alteration of the classification strategies deployed by TESPAR's verification algorithms.

"The applications of high quality voice authentication on a Smart Card are enormous and it can easily be integrated with other security methodologies such as Public Key Infrastructure (PKI)," said Ian Taylor. "Its use in automated e- and m-commerce transactions offers obvious potential, but we also foresee a range of applications from access control for confidential data to payments made via TV set-top box or PC."

Domain Dynamics has licensing arrangements with ET Voice (a subsidiary of European Telecom) to incorporate TESPAR voice authentication and word recognition technology in mobile phone handsets and with Earthport.com to provide additional security to its Internet-based payment system.

TESPAR (Time Encoded Signal Processing and Recognition) codes waveforms by dividing the waveform into sections, mathematically defining shape, duration and amplitude. The process for describing and classifying signals typically takes about 200 lines of assembly code.

Contact

- **Martin George** Domain Dynamics
  ☎ +44 (0)1793 782793
  martin.george@ddl.co.uk
  www.ddl.co.uk

Cubic Awarded Further Contract

The Chicago Transit Authority (CTA) has awarded Cubic Transportation Systems a $5.2 million contract for more equipment for the contactless Smart Card-enabled intermodal (bus and train) mass transit fare collection system which made its debut this month.

VisaCash CEPS product

CardBASE Technologies has announced the availability of the VisaCash CEPS, (VCEPS), stored value product in its suite of card management software modules, CardBASE Issuer, CardBASE Acquirer, CardBASE Clearing & Settlement.

A major feature is the availability of a backward compatible solution supporting the pre-CEPS VisaCash product.

The CardBASE system will allow banks running VisaCash programs to migrate from the current VisaCash system to the globally interoperable VCEPS based VisaCash system with no disruption to their cardholders or merchants.

Website

www.cardbase.com

Advanced Card Awards 2001

Details and entry forms for the Advanced Card Awards 2001, which runs alongside the UK's Smart Card 2001 conference and exhibition (20-22 February), are available from smart-ventures.com or by telephoning +44 (0)1733 245841.

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"The SIM Card today and its role in the future world of 3rd Generation technologies"

This article will continue over the next two issues

By Declan Taylor of Bluefish Technologies

The 3rd Generation (3G) world is closer than we think. Within 5 years there will be as many as 1.5 billion mobile subscribers worldwide, half of whom will be able to access the Internet from their mobile device. Within 10 years subscribers will be going about their daily lives, interacting with an impressive range of advanced voice and data services. By comparison, with today's basic and often over-hyped services, this new wireless era can only be described as being "communications, but not as we know it!"

Service creators in the future can enjoy distinct advantages over their engineering led predecessors, who struggled through the minefields of proprietary technology. Standardised development environments will provide greater flexibility and faster times to market. Subscribers will be empowered to customise their services for a better user experience and personalise their service bundles. Advanced Smart Card security models will unequivocally identify customers and give them seamless access to multiple networks and the services they provide. Service creation in the future will owe a debt of gratitude to today's GSM community for their standardisation efforts in delivering a global communications system. The GSM pioneers had the foresight back then to recognise the important role the SIM card concept would play in securing future wireless services.

For the last 10 years subscribers have been successfully logging onto GSM networks using the SIM (Subscriber Identification Module). The SIM is based on secure microprocessor smart card technology and uses on-board processing capability and data management functions to execute the GSM application. The SIM has now evolved towards being an intelligent platform for personalised service delivery. At this point it is worth reviewing just what the traditional SIM functions are.

Firstly, preventing unauthorised access to the network via the handset.

A local PIN check is needed to verify the identity of the user. The PIN checking procedure requires the user to present a secret four to eight digit PIN number to the mobile handset. The SIM checks the presented value against that held in its secure memory and verifies if the user is allowed access. The PIN supports a "blocking" procedure so that if the PIN is entered incorrectly three times in succession the SIM blocks itself, thus preventing further usage. The SIM can only then be unblocked by using its relevant PUK (PIN Unblocking Key). The authorised user and the network are the only ones who know this eight-digit code. The PUK itself also has an associated error counter which will block the SIM irreversibly if more than ten incorrect PUK entries are made.

Today the SIM and mobile only support a manually entered PIN check to validate a user. Looking to the future, it will be reasonable in applications for the SIM and mobile to support biometric verification of the user in other applications. The mobile phone today is primarily seen as a communications tool, rather than a wireless Smart Card reader that could be used to validate biometric identities in applications such as driving licenses, passports and health services.

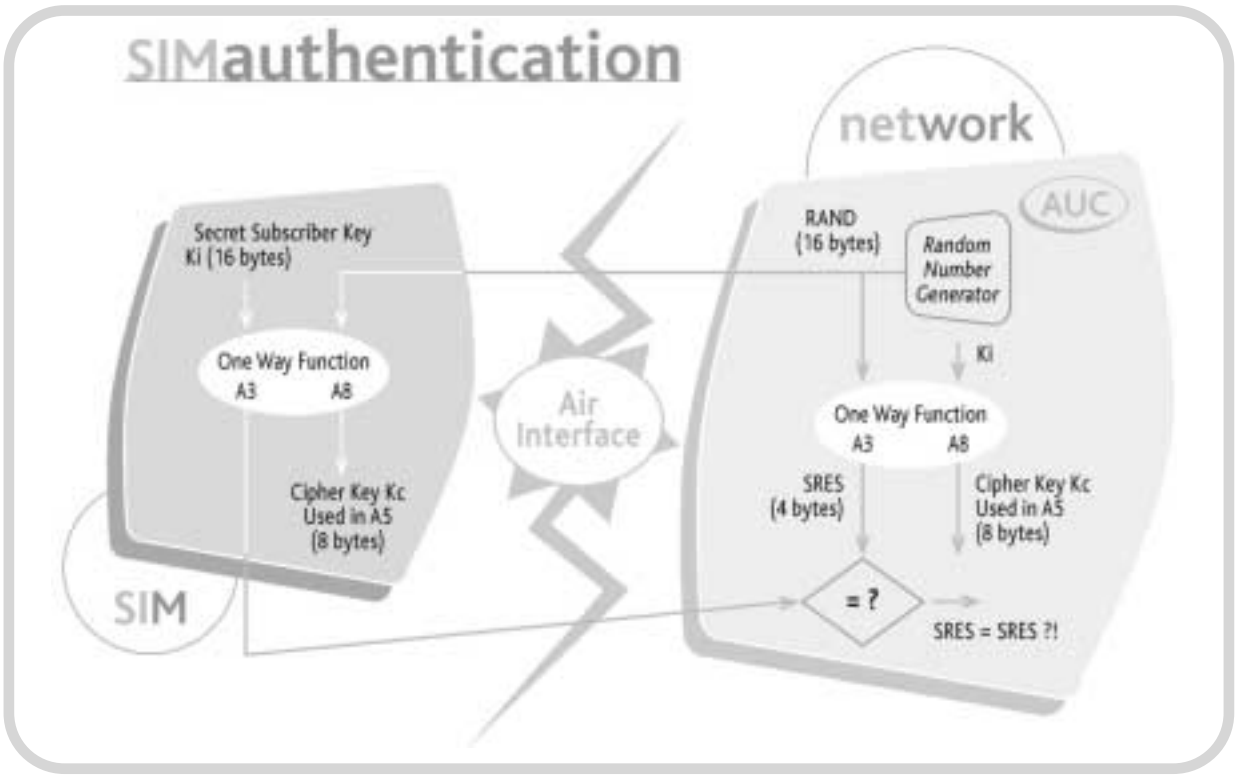
Secondly, providing secure access to network services.

Once the PIN check is satisfied, the SIM must prove to the network that it is valid for use. A classic challenge-response mechanism is started; the network generates a random number (RAND), which it sends to the handset. The handset passes it through to the SIM with the instruction to encrypt the data and return the encrypted response (SRES). The SIM then runs the authentication algorithm (A3) with the inputs of RAND and the secret subscriber key Ki.

The SIM returns the output of this calculation to the network via the handset. The network also carries out the same calculation and compares the value returned by the SIM. If both calculations match, the SIM is allowed to access the network and the user is free to use the network services. The SIM also performs a second calculation using a second algorithm (A8) giving an output, Key Kc. This output is used by the handset to encrypt the air interface in conjunction with another algorithm (A5).

Thirdly, service personalisation functions.

The SIM is a secure portable data storage device that can be used to personalise the mobile handset for the user. It stores several network parameters (e.g.: TMSI, IMSI, Ki) and other associated billing data. The SIM also stores the users phone book of abbreviated dialling numbers. In the 3G world one feature of the new SIM module known as the USIM (Universal Subscriber Identity Module) will be the functionality to host more sophisticated service personalisation functions. Service creators can design services that can be readily



customised with the users interaction. The SIM provides operators with an ideal mechanism to achieve the holy grails of one-to-one relationship management and one-to-one marketing with customers.

Since being introduced, the SIM has continued to benefit from the numerous advances made in the Smart Card and silicon chip industries. SIM memory sizes have risen from the humble 3KB and 8KB EEPROM devices of a few years ago to the 16KB and 32KB of today. Virgin Mobile's highly publicised launch in 1999, as the UK's first VNO (Virtual Network Operator), took advantage of the latest SIM card technology by being the first operator to introduce 32KB SIM cards into the UK market. Will the market see other VNO entrants taking the initiative by stepping into the market with the first 64KB SIMs? To be or not to be first to market, that is the question fanning the flames on many a SIM roadmap paper as operators try to differentiate their offerings.

In the 2G world the SIM card has been the property of the network operator and they were relatively free to develop applications with preferred development partners. Standardisation within GSM has provided SIM application developers with a toolbox of commands, which allow them to create new applications. These commands include the secure downloading of data OTA (Over the Air) into the SIM and those for making the SIM "proactive" and capable of triggering events that are executed in the mobile equipment (ME).

SIM Application Toolkit is just the start in utilising the full potential of Smart Card capability in the wireless world. The toolkit specification defines commands and procedures for running handset independent SIM Toolkit (STK) applications on the SIM. This reverses the traditional master-slave domination of the ME over the SIM and provides the SIM with access to the mobile equipment's interfaces; the keypad, screen and the antenna. The SIM can fully interact with the network by using the bi-directional communication OTA channel. STK technology enables remote access for the SIM and is supported by all phones being manufactured today.

Typically SIM-based applications are grouped into three categories:

Location and Information Services, Banking and Financial Services and Internet access services. Location / Information services are already major revenue generators for leading networks operators. Telecom Italia Mobile in Italy, T-Mobil in Germany and Orange in the UK have already demonstrated the massive consumer demand for information services. The Mobile Information Service offered by Orange in the UK allows the user to access a range of services (e.g. sport, lifestyle and finance) by navigating through a series of menu structures that are programmed into the SIM. The user interacts with the application through the keypad and sends an information request to the network.

The network receives this request and returns the information to the SIM by an SMS delivery. The SIM then displays the information on the screen of the handset.

Mobile banking services offer a convenient alternative to existing PC or telephone banking services. Allied Irish Bank's mobile banking service, running with the Eircell network, allows customers to access their bank account from their mobile phone. STK commands are used in this application to also re-create a familiar user experience for the customer. Making a service easy to use and familiar to the customer is a key ingredient in any successful service strategy.

SIM-based solutions are also being used to access the Internet. WAP has been relatively slow to take off and some SIM-based web browsers solutions have already been developed to provide access to WAP-based web sites. As mobile and Internet convergence continues we will see the SIMs role evolve to meet market demand and enhance new models of service delivery. In tandem we will also see the mobile phone transform itself from a voice communicator to a personal access device.

In conclusion, SIM-based solutions with commercial services are already widespread in the market. Innovative commercial services on 64KB SIM platforms are eagerly awaited and should be in the market, in volume, by 2001. These SIMs will be packed with leading edge technology that supports a new wave of applications, which the customer can personalise. These new applications will have the added advantage of operating at the faster data rates provided by the packet based GPRS networks. This marriage of advanced SIM technology with faster data rates creates a highly lucrative commercial expressway for delivering new and improved services.

About the Author

Declan Taylor joined Bluefish Technologies in June 2000 as Sales Manager. Previously Declan worked for De La Rue Card Technology, Tech-rep UK and then moved to ORGA in 1997. He worked as a Business Development Manager for Telecommunications at ORGA and was a regular speaker at various Telecommunication conferences.

For further information about Bluefish Technologies please visit: www.bluefish-tech.com

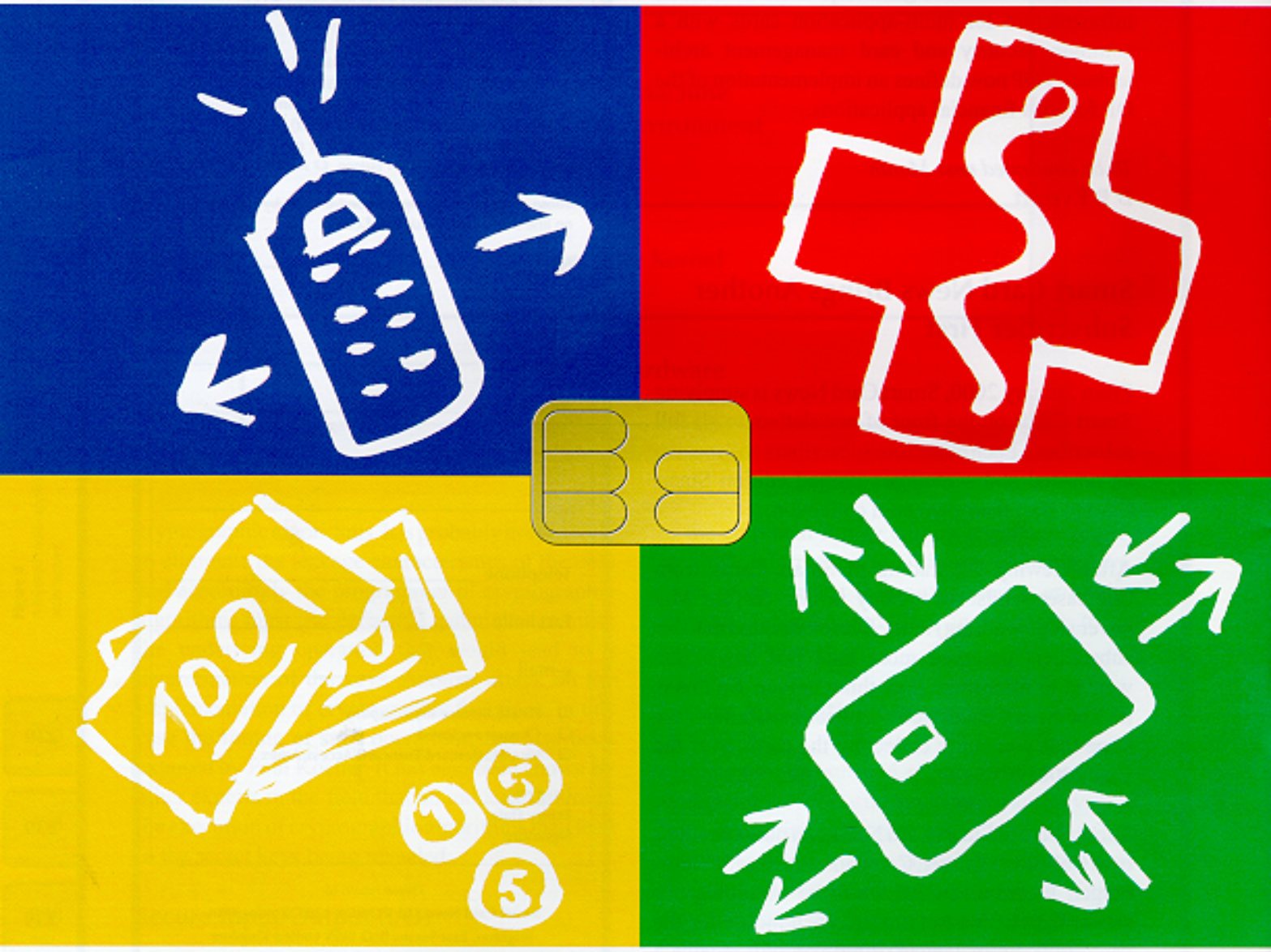
Please note that the opinions expressed in this article are those of the author and do not necessarily reflect those of Smart Card News Ltd, and its employees.

ORGA – Smart Solutions for the Smart Card Market.

The smart card industry is continuing its rapid growth. To be a leading supplier within the smart card market you have to be a truly international organisation. ORGA Card Systems, a founder of the smart card industry, offers the complete product range to a number of markets including; GSM, Communications, Banking, Retail, Loyalty, Health, Leisure, ID and Access Control.

To be at the forefront of these smart card markets talk to ORGA.

For more information visit us at: **www.orga.co.uk**



ORGA Card Systems (UK) Ltd.
255 Wharfedale Road,
Winnersh Triangle
Wokingham
Berkshire RG41 5TP
Phone +44 (0) 118 377 6000
Fax +44 (0) 118 377 6001
Email: info@orga.co.uk

ORGA Kartensysteme GmbH
International Headquarters
An der Kapelle 2
33104 Paderborn
Germany
Phone: +49-5254-991-0
Fax: +49-5254-991-199
Email: info@orga.com

ORGA
The Smart Card Integrator