



Ireland Plans to Become a Centre of E-commerce

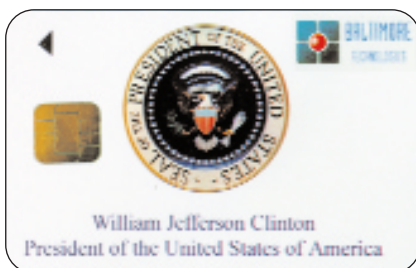
Southern Ireland plans to become a centre of electronic commerce with the government giving "top priority" support. Last month, US President Bill Clinton and Irish Prime Minister Bertie Ahern digitally signed a joint US-Republic of Ireland communique on electronic commerce in an historic ceremony in Dublin.



This is the first time that a Smart Card system used in conjunction with a digital signature has been used to sign an intergovernmental document. The two leaders sat at two computers and signed the document using a digital signature system from Baltimore Technologies, of Dublin, and Smart Cards provided by US-based Datakey.



Prime Minister Ahern said: "The government has identified the development of Ireland as a centre for electronic commerce as top priority." He said that recent initiatives include publication of a national policy paper on encryption and digital signatures and the establishment of an Advisory Committee for Telecommunications (ACT) to assist the government "in identifying strategies to place Ireland in the forefront of the electronic commerce revolution."





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Smart Card News is published monthly by Smart Card News Ltd PO BOX 1383 Rottingdean Brighton East Sussex BN2 8WX England
Telephone : + 44 (0) 1273 236677 / 626677 • Facsimile : + 44 (0) 1273 624433 / 300991 • e-mail : scn@pavilion.co.uk ISSN 0967 196X

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Printed by Design and Print (Sussex) Ltd. Telephone : +44 (0) 1273 430430

Diabetes Pilots in Two Countries

Authorities in France and Spain responsible for the management and treatment of diabetes have launched a Smart Card-based solution called Qualidiab, with the support of the European Commission, the World Health Organisation (WHO) and the International Diabetes Federation.

Qualidiab consists of a Gemplus GemXcos Smart Patient Card storing key data on the patient and a Gemplus GCR410 card reader linked to a remote computer holding the most recent information on the patient's treatment. Confidentiality is achieved through differentiated rights of access to the data and controlled by the card so that nurses do not have access to the same data as doctors or administrators. The system was launched at the European Association for the Study of Diabetes congress in Barcelona last month and will be tested at two pilot sites - Corbeille, near Paris, and Barcelona. It will later be extended to other European sites.

Line Kleinebreil, Diabcare France and a consultant to WHO, said: "Qualidiab presents significant benefits in the care of diabetes, and we hope the solution can be extended to cover other diseases."

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First Support System for MULTOS

Logica has launched Mcx which it describes as the world's first commercially available multi-application Smart Card management system for MULTOS the Smart Card operating system.

Nick Habgood, Chief Executive of the MULTOS standards body MAOSCO, said: "MCx is what the Smart Card industry has been waiting for. Whilst the key to mass market appeal for Smart Cards lies in their ability to hold a number of different applications, the missing factor to date has been the lack of interoperability. MCx is the first card management system to provide a solution to this problem." MCx provides all the facilities required to issue cards ranging from application credit scoring, Internet access to account information, billing statementing and financial settlement, explained Andrew Tobin, Logica's Director of Retail Banking Products. He claimed it was the next step forward to the mass use

of multi-application Smart Cards.

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Wells Fargo Internet Pilot

Wells Fargo employees are piloting Mondex Smart Cards to log onto the Internet, transfer funds from their accounts onto their Mondex cards and then use their cards to shop on-line.

Mondex cardholders can use their WellsWallet, as it is called, while shopping at participating merchant Web sites to purchase goods and services, receive refunds, transfer funds between their Wells Fargo deposit accounts and their Mondex card, check their account balances and view their last 10 Mondex card transactions. The Mondex cards were supplied by Gemplus with chips from Hitachi. Both Gemplus and Hitachi supplied card readers for the pilot participants.

The initial participating merchants include Greeting-cards.com, the biggest animated musical greeting card store; TicketWeb, the first event ticketing company on the Internet; and PROMARK, which sells Wells Fargo-branded merchandise on-line.

Dudley Nigg, Wells Fargo's Executive Vice President of Online Financial Services, said he expected loyalty programs to be added soon by participating merchants. (Loyalty Programs using Mondex technology are already being tested by Mondex USA and Burger King - SCN June 1998, page 109).

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Norwest Joins Chipcard Alliance

Norwest Corporation, a diversified financial solutions company providing banking, insurance, investments, mortgage and consumer finance, has joined the Global Chipcard Alliance.

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Boston Smart Card Parking Pilot

A Finnish company is providing the Smart Card technology for a parking meter pilot scheme around Boston University, Massachusetts, in the US.

The scheme is being introduced this autumn by the City of Boston and Fleet Financial Group which has licensed the microprocessor card technology from Setec Oy, a subsidiary of the Central Bank of Finland.

Customers will be able to use the cards at over 200 special red-domed electronic parking meters in the university area which will accept the Smart Cards as well as coins during the three-month pilot programme. The meters were supplied by POM Inc., of Russellville, Arkansas.

Mayor Thomas Menino said: "I am proud to announce that Boston is the first city in the nation that is utilising a reloadable Smart Card for the payment of parking meter fees."

He added: "Too many parking tickets are issued to drivers who would be willing to pay the meter fees but do not, simply because they are short on quarters. The Smart Card eliminates this problem and I expect a decrease in the number of parking tickets issued in this area for unpaid meter fees."

The card will be available to the general public at three Campus convenience stores near the university and at the student union. Cards can be reloaded up to a maximum of \$100.

Customers will also be able to use the card for purchases of other goods and services at the campus stores, including magazines and food, and for parking at two university-operated parking lots.

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BasicCard Now Contactless

ZeitControl cardsystems GmbH has announced the Mifare Pro BasicCard combining contact and contactless Smart Card technology developed in a co-operation with Philips Semiconductors / Identification.

The chip card only contains a Mifare ProDual Interface chip which ZeitControl says makes it particularly suitable for local passenger transport. Travellers place the card in a ticket machine and the cost of the ticket is deducted from the value stored in the contact chip and the ticket data is transferred into the non-contact part of the card.

The 8K bytes EEPROM card holds the user's permanent data and the application program. This program is developed in Basic on a PC, compiled into a virtual machine language known as P-Code and transferred into the chip. In the chip, a virtual machine executes the P-Code while the RAM contains run-time data. Data is protected with triple DES encryption.

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IBM Shows Java Card Prototype

IBM demonstrated its Java Card prototype at the Defending Cyberspace '98 conference in Washington DC last month. The prototype uses Java virtual machine technology optimised for performance and small footprint by developers at the IBM Zurich, Switzerland, research laboratory. The implementation supports the Java Card 2.0 specifications as well as enhancements to increase performance.

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Smart Cards Slow to Grow in US

Smart Cards are only finding success in the United States in closed environments such as college campuses and in the Armed Forces, according the Ken Kerr, Research Manager of a Mentis Corporation study Consumer Payment Methods: The Changing Role of Debit, Credit and Smart Cards. "Smart Card payments will likely remain a very small portion of total card payments during the next five-year period, but should grow significantly thereafter," he said.

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Smart Robots in Italian Hospital

Hospital supplies such as laundry, pharmaceuticals and food, are being delivered by robots and tracked with contactless Smart technology in one of Italy's largest hospitals.

Described as the world's first automated hospital supply delivery system, it combines Otis Incorporated's advanced robotic system and Racom's industrial Smart tag technology. Through its Cernusco, Italy operation, Otis developed the solution as part of a major automation program funded by the hospital and other European interests, to reduce operating expenses, increase staff efficiency and improve patient care.

"The rising utility of Smart tags in industrial automation applications reinforces our strategy to partner with industry leaders like Otis, to deliver world class solutions," Art Rancis, Racom's President and CEO says. "We believe our technology provides superior performance for applications needing speed and reliability, whether for the delivery of life critical hospital supplies or for the manufacture of products in an assembly line."

Robots, equipped with Racom tag readers, transport trolleys and serve as the delivery vehicles throughout the hospital's eight floors and several miles of corridor.

When hospital personnel wish to move supplies such as laundry, pharmaceuticals, laboratory samples and food, they are loaded on the trolleys, which are positioned throughout the hospital. The robots then automatically retrieve the trolleys and transport the supplies to a selected destination.

"The system's speed, durability and reliability make the robots fully autonomous, noting destinations, delivery and content information from each Racom tag," said Enrico Cella, Service Project Leader, Otis.

Racom Systems, Inc., headquartered in Denver, Colorado, develops and markets Smart Card-based systems that automate transactions for electronic commerce, information technology, physical and logical access control, and industrial automation.

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SmartXA Development Tools

Philips Semiconductors, in partnership with Raisonance, are now offering designers simulator development tools for Philips' family of multi-application Smart Card controller ICs - SmartXA - the first 16-bit CISC Smart Card ICs.

Launched by Philips in May 1997, the open SmartXA architecture is optimised for high security and high-speed multi-provider cards. The company says the architecture provides an ideal platform for multi-application card operating systems, such as MULTOS and high level languages like Java.

The new SmartXA simulator tools enable efficient development of Smart Card operating systems and accurate simulation of all the features in software that are implemented in the hardware of the chip. Applications include E-commerce, Internet services, banking pay-TV and network access.

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Smart Card Technology Center

A Smart Card Technology Center has been opened by the General Services Administration and the US Navy at the GSA headquarters in Washington DC to demonstrate current, practical uses of Smart Card technology in the Federal Government.

The Center will feature hands-on demonstrations from eight companies showing how multi-application Smart Cards are eliminating time-consuming paperwork. New applications and equipment will be evaluated for possible inclusion in the Center. Demonstrations include access control, biometrics, electronic purse, digital signature and medical and dental records.

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Road Toll Trials Planned for UK

The UK government is planning to launch two large-scale road toll trials to assess the feasibility of introducing tolls for drivers.

Announcing the plan last month, John Prescott, the Deputy Prime Minister, said that one trial would be in England and the other in Scotland.

Both schemes will involve motorway as well as urban roads and will cover a wider area than previous trials in Leicester, Bristol and Cambridge.

Addressing local authority transport chairman in London, Prescott invited local authorities to participate in the schemes which are expected to run for a year.

The schemes are intended to test electronic tolling technology in all weather and traffic conditions; obtain experience of setting up charging systems, and to decide on a fair level of costs. The impact of charging on road users and communities and personal privacy will also be considered.

GemXplore SIM Card OS Available

Gemplus America has announced the availability of GemXplore 98, its next generation SIM card operating system and application development environment.

The new system is designed to enable network operators to quickly design, prototype and test new value-added services.

GemXplore 98 and the GemXplore CASE application development environment integrate the full range of functional capabilities defined by the GSM Phase 2+ specifications, including the SIM (Subscriber Identification Module) Toolkit standard. The SIM Toolkit is a wireless industry standard allowing the Smart Card to manage applications through the handset display and keyboard interface.

Using GemXplore CASE, new applications can be rapidly developed and loaded into SIM cards to ensure customer acceptance and complete integration of new services. These new services can even be downloaded using the Gemplus over-the-air remote management platform.

Gemplus was demonstrating GemXplore 98 at PCS '98 in Orlando, Florida, last month.

“With GemXplore 98, it is now possible to customise wireless terminals, adapting them to meet the needs of each market segment of the subscriber base,” said Philippe Martineau, Director of the Wireless Marketing and Products Group. “GemXplore CASE makes it easier to develop value-added services. What used to take months from general specifications to first tests now just takes days.”

GemXplore CASE offers a user-friendly software suite for Microsoft Windows that enables operators to develop SIM Toolkit applications and load them into SIM cards running GemXplore 98.

Gemplus is offering a GemXplore 98 seminar to third-party developers that will provide them with the knowledge and tools to develop Smart Card-based wireless applications. The seminar will be held in Dallas on 28-30 October, 1998, and will be based on the GemXplore 98 SIM card operating system and GemXplore CASE application development environment. To register for the seminar contact Gemplus at +1 972 726 2790.

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Growth in Internet Commerce

Global consumer on-line purchases will grow at a rate of approximately 67% compounded annually over the next five years, forecasts Visa International. Purchases could be as high as US \$100 billion by the year 2002 and Visa predicts that payment cards will continue to be the preferred payment method on the Internet.

Stephen Schapp, Executive Vice President, Emerging Products, said: “We believe that consumer Internet shopping worldwide will continue to grow at levels that are likely to exceed expectations, as has happened time and time again. Within this rapidly growing market, cards are the obvious payment choice, and that represents an historic opportunity for Visa’s member banks.”

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Smart Locks for Hotel Guests

Starwood Hotels & Resorts Worldwide Inc., one of the world's largest hotel chains with some 650 hotels, is installing Smart Card-based electronic locks on guestroom doors and plans to roll-out other applications using the same card.

The cards could include such applications as loyalty program, electronic purse, pay-TV, kiosk check-in, telecommunications, gaming, and Internet applications. Co-marketing programs with partners such as airlines and car rental companies are also possible.

The system, developed by CISA Security Products, of Faenza, Italy, one of the largest lock manufacturers in the world, and Smart Card manufacturer Gemplus, aims to provide security features to reduce a hotel's liability, and to enable the development of marketing programs to enhance customer satisfaction and loyalty.

The recently announced Smart Card locking system for the 2,041 rooms at the Hilton New York & Towers is the result of the CISA/Gemplus collaboration (SCN August 1998, page 153).

The Smart locking systems recognise information stored on the microchip embedded in the hotel's Smart keycard or guest's Smart Card. Applications are based on CISA's Dual Squared technology that enables the concurrent use of both memory and microprocessor Smart Cards in the same lock.

Pascal Metivier, Executive Vice President of CISA, said: "There is a great deal of concern from the international hotel chains concerning the security of magnetic card-based locking systems. The CISA/Gemplus solution is a major step towards improving guest security and reducing hotels liability. "The multi-application capacities of the Smart Card technology and its related business case turns the room key into a profitable device that opens new horizons for marketing applications in the tourism and hospitality industry."

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In-house Issuance for Visa Cards

Retail banks can now issue Visa-branded financial cards in bank branch locations using DataCard's 150i card personalisation system which complies with the security requirements in Visa's Instant Card Issuance Security Standards Guide. The Guide sets the minimum security standards required for banks, credit unions and other financial institutions to instantly issue Visa products.

The DataCard 150i delivers ready-to-use cards in a single-pass operation. Standard features include embossing, magnetic stripe encoding and colour topping while indent printing and Smart Card personalisation capabilities are optional.

Security features include password-protected financial card production, a non-resettable card counter for audit trail purposes and the ability to process encrypted data. Physical protection is provided by a password for unlocking the front cover, and the unit can be bolted to a counter top to prevent theft.

"Instead of waiting days or weeks for cards to arrive in the mail, members can hand their customers permanent cards on the spot, or instantly issue replacement cards," said Keith Clayton, Vice President of DataCard's retail banking group.

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ICL / Visa Alliance

ICL and Visa have formed a strategic alliance to deliver commercial e-commerce solutions.

ICL will recommend Visa as a preferred payment mechanism for its e-commerce applications and Visa will recommend ICL as a preferred service provider for business-to-business e-commerce.

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Record in Smart Card Usage

Proton World International (PWI) is claiming a world record in Smart Card usage with more than 50 million transactions performed with Proton-based electronic purse cards since they were introduced. PWI also says that usage is accelerating with the number of transactions increasing by 80 per cent in the first nine months of 1998 compared with 1997.

Armand Linkens, Managing Director, said: "Ultimately, the success of a Smart Card technology can only be evaluated by its users and user acceptance is measured in terms of transactions. The Proton transaction volume is very solid in all countries where this technology has been launched nationwide."

Dominique Hautain, Executive Vice President, Strategy & Marketing, pointed to fast transaction speeds as a critical factor in Proton acceptance.

"Market research indicates that 92 per cent of consumers and 88 per cent of merchants find the Proton-based system fast. We have always been convinced that transaction speed was critical for market acceptance by cardholders and merchants, with the result that much effort has been devoted to speed. Proton transactions are probably the fastest in the world for electronic purses, with processing speeds of less than one second."

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Cyberflex Mobile Solution

Schlumberger has launched a mobile services solution for GSM operators which can turn the phone in your pocket into a portable communications system providing secure e-commerce, e-mail and access to databases and information. Called the Cyberflex Mobile Solution, the system provides the mechanism to partner with external service providers such as banks and retailers.

The introduction follows more than six months of beta trials with mobile operators, terminal manufacturers and service providers, including Nokia, Sonera, Swisscom and Telecom Italia Mobile.

The system is based on a new Java SIM (Subscriber Identity Module) Smart Card called Cyberflex Simera, Unix host systems based on an Oracle database, and operator-subscriber communications links including over-the-air technology.

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Support for CEPS

Visa International has announced that the major electronic purse programmes have committed to adopt CEPS, the Common Electronic Purse Specifications, currently under development by a working party which includes Visa, Visa Espana/SERMEPA, ZKA (Germany) and Europay. The card issuer claims that already, more than 90 per cent of the world's electronic purse cards will conform to CEPS when the specifications, aimed at global interoperability, are published later this year. Support has come from organisations represented in Argentina, Australia, Belgium, Brazil, Canada, Columbia, France, Hong Kong, Israel, Italy, Ireland, Germany, Japan, Luxembourg, Mexico, Netherlands, Spain, Sweden, Switzerland, UK and the USA. In the UK, Barclaycard's Chief Executive Bob Potts, commented: "This is a very positive step. It is in the interests of banks worldwide that we agree to develop common standards for electronic purse."

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Gemplus Supports PBOC Center

Gemplus has signed an agreement with the People's Bank of China to license its leading edge Smart Card software and hardware technology for testing to PBOC's Bank Card Certification Center which will certify the IC Cards and terminals submitted by card and terminal vendors/banks to ensure that their products comply with PBOC's IC Card specification. Gemplus will also provide technical training and support.

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Macau AFC Contract for Racom

A contactless Smart Card automatic fare collection system (AFC) is to be introduced on buses on the island of Macau, west of Hong Kong.

Transmac Transportes Urbanos De Macau, the largest of two government franchised public bus operators on the island, has awarded a US \$250,000 plus contract to Racom Systems to supply more than 100,000 cards and several hundred card readers. Implementation of the system is scheduled for completion before the end of this year.

Transmac owns 314 air-conditioned buses of various types and transports over 150,000 passengers daily, commuting between destinations on more than 20 routes, including the Macau International Airport.

A monthly bus pass was introduced in March, 1991. Monthly pass holders using a Racom Smart Card can ride any Transmac bus with unlimited rides throughout a given month - a unique feature in the public transportation industry and well received by residents.

Alfred Liu, Transmac's Managing Director, said that fast transaction times and robustness of the contactless Smart Cards were key elements in selecting the Racom system.

"Racom's technology provides the superior speed and needed durability that is required for our transit properties," he said. "It was imperative that our system have superior durability given the harsh weather conditions in Macau. Racom's contactless cards meet all of our stringent testing requirements for functionality in this environment."

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Security for Large Enterprises

DataCard Corporation and Litronic have announced Smart Card-based identification and authentication solutions designed to help government agencies, corporations, banks and other large enterprises to protect and manage sensitive information.

The new token-based security solutions feature Litronic's ProFile Manager, a Smart Card initialisation management application, along with a digital photo ID system from DataCard. ProFile Manager secures generation, management and recovery of file or Smart Card-based keys and certificates to manage the deployment PKI security and is integrated with VeriSign OnSite.

Digital certificates are stored on personalised Smart Cards. When authorised users want to access protected information over a LAN, WAN or the Internet, they insert their Smart Card into a reader and enter a security code (PIN). After their digital signatures are verified, they are granted access to the database or Web site. The personalised Smart Card also serves as a photo ID. During personalisation, identifying information - including full-colour photos and names - can be printed on the card and also stored in a central database for a variety of security applications, including ID verification and card re-issuance.

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GalactiC Developer's Kit Available

De La Rue has announced the availability of its GalactiC pre-released developer's kit which complements the standard Java development kit following tests using Symantec Visual Cafe for Java professional Development Edition 2.0.

GalactiC is a range of Smart Card products based on Java technology allowing the management of several individually secured applications on the same card. The development kit includes three GalactiC test cards, a DeLaRue Smart Card reader and drivers, and software tools to assist in the development of applications, preparation of Java byte-code and subsequent loading onto cards, plus reference manuals and user guides.

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UK Majority Favours ID Cards

This Page:
A typical UK family
[ICL]



A majority of people in the UK are now in favour of ID cards. An international research report reveals that 54% of the British would now welcome an ID card, a 10% increase from 1996.

The British said they believed that the introduction of ID cards would help to control football thugs and other criminals while 84% said ID cards would be successful in tackling benefit fraud.

These are some of the findings of The Lifestyle Revolution report commissioned by ICL and conducted by MORI of 3,500 people across Britain, the US, Sweden, France and Germany to reveal attitudes towards technology.

Forty-nine per cent of respondents were interested in the development of Smart Card technology if it reduced the number of cards carried to just one. This idea was most popular in the UK (60%). While 70% of people saw banks as the most likely providers of electronic payment/Smart Card technology. The French had the greatest belief in a banks' ability to provide a Smart Card with 82%. Britain showed the lowest percentage of all countries with 63%.

Government rated second with an overall response rate of 17%, followed by credit card providers with 15%. Interestingly the Post Office was rated as second in France and Britain.

The ICL report, priced at £250, can be obtained by calling +44 (0)1753 604969.

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Chipknip Cross-Border Plan

Europay International has announced that banks issuing the domestic electronic purse Chipknip in The Netherlands have requested its support to facilitate cross-border usage of the card.

The move is a migration towards an open electronic purse standard based on ECBS/CEPS (European Committee for Banking Standards/Common Electronic Purse Specifications).

Jan Groninger, Chairman of the Board of Directors at Interpay, which represents the Dutch banking industry, and Managing Director of Rabobank, explained: "This co-operation will extend the acceptance of the Chipknip electronic purse outside of The Netherlands, and will be particularly important for banks operating within the euro zone."

Currently, 12 million Chipknip cards - based on Proton technology - are in circulation and can be used at some 125,000 locations.

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Electronic Voting System for NI?

A Smart Card voting system using signature verification is being considered by the government of Northern Ireland to prevent voting fraud and make it easier for voters. This is one of the solutions being discussed, but the end solution would have to gain sufficient agreement in government and would require legislation.

According to the Office of the Chief Electoral Officer of Northern Ireland, encryption will be used to protect the identity of the voter and prevent the system from being hacked. The system will also have to be consumer friendly and there will be a debate on how to overcome all the problems including voters unable to leave the home and the situation of voting equipment. The cards will be issued by the Chief Electoral Officer and not by the government.

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Turkish Bank Offers E-commerce



Pamukbank, one of Turkey's top three retail banks, is to provide its 1.5 million private customers and over 140,000 commercial organisations with secure retail banking services via the Internet. Temel Yolgecenli, Pamukbank's Vice President, Software Development Department, explained: "We believe that the use of Internet commerce will accelerate rapidly in the coming years and that those who make the first firm steps will put themselves in an advantageous position. However," he added, "it must also be underlined that the biggest obstacle for e-commerce is the fact that customers have not yet felt safe enough to use the medium."

Pamukbank has ordered a total Internet payment solution from VeriFone, which is based on the SET Secure Electronic Transaction protocol, and will be supplied by its local distributor, Istanbul-based Iletisim Teknoloji Danismanlik Ticaret AS (ITD), and implemented by ITD and VeriFone's parent company Hewlett-Packard Company in conjunction with the bank's IT group. Consumers can use VeriFone's vWALLET software to conduct a SET-based transaction with merchant's Web site. The software will run on HP servers.

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Multi-application Driver's License

New Jersey is planning to issue Smart Cards to the nearly six million drivers in the US state. The plan, called AccessNJ, is also considering the possible addition of other government applications to the multi-purpose card.

These could include electronic benefits, firearms permitting, WIC (Women, Infant and Children) nutrition subsidies, as well as possible private sector applications like electronic purse or credit, according to H Kurt Helwig, Executive Director of the Electronic Funds Transfer Association (EFTA) who spoke at a member summit in Washington last month.

"If AccessNJ succeeds, it could be a bellwether for the Smart Card industry and government agencies looking to streamline citizen's access to information and create more efficient service delivery," he said.

"On the other hand," he added, "the plan is not without controversy, especially in terms of privacy, security and the issue of who pays for what to use the card."

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First Mobile Banking Launch

GSM operator Radiomobil in co-operation with the Expandia Bank, both based in Prague in the Czech Republic, has launched the first commercially available Smart Card-based Mobile Banking service which can operate with a range of standardised handsets.

Giesecke & Devrient GmbH has supplied the Smart Card SIMs (Subscriber Identity Modules) which are compatible with the latest GSM SIM Toolkit standard.

Customers will be offered a variety of on-line financial services, including account information and secure payment facilities.

"A clear requirement was to be able to offer the service on different standardised handsets as these become available," said Martin Bögelsack, Product Services Manager at Radiomobil. "G&D has paved the way for exploiting the enormous potential for Smart Card synergy between the telecommunications and banking industries," said Jürgen Nehls, a G&D Board member and Head of the Cards and Card Systems Business Unit.

Contact

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Left:
Pamukbank, one of
Turkey's top three
retail banks
[Verifone]

Love Chips for Cyborg Couple

The world's first cyborg - part man, part machine - Professor Kevin Warwick, who had a silicon chip implant in his arm, has persuaded his wife Irena to have a similar implant in an experiment to develop telepathic communications. The couple are hoping that their experiments may eventually lead to people being able to communicate with each other without being in contact.

Professor Warwick, of the Department of Cybernetics at Reading University in the UK, had the chip implant last August to allow him to switch on lights and computers automatically and to be located anywhere in the building (SCN September 1998, page 161).

The theory is that Mrs Warwick's chip will receive signals every time her husband has strong feelings, including when he thinks about her. Initially the chip will be restricted to simple yes/no signals, but Mrs Warwick will not be able to tell if her husband is sending loving messages or is angry.

However, the Professor believes this is the first step towards a new form of communication. In much the same way as a mobile phone turns words into electronic signals which are bounced off satellites and converted back into sound, the chips would take feelings and turn them into a digital form.

The Professor predicted that future chips connected directly to a couple's central nervous system would enable lovers to communicate by thought alone.

The concept is wonderfully romantic for young lovers. But what happens later when you protest: "Of course I love you darling," and the reply is "That's not what my chip tells me!"

Arts Loyalty Cards

Loyalty reward Smart Cards are being introduced by the arts in the UK to encourage people to go to plays, concerts and art galleries. A LitCard awards points every time the cardholder borrows a book from a library and can be used to buy books. A Smart Card also gives £30 to spend at arts venues. The schemes are part of a £5 million initiative co-ordinated by the Arts Council of England with the ten Regional Arts Boards.

DataCard Enhances Printers

DataCard Corporation has introduced Smart Card personalisation capabilities for two of its most popular photo ID printers - the ImageCard III and the ImageCard Express. The ImageCard III now offers contactless Smart Card programming and card issuers can add this enhancement to printers already installed. ImageCard Express now accommodates an optional Smart Card personalisation module.

Contact

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People on the Move

Robin Townend has been appointed as President and Chief Executive Officer of Cardis BV, a newly formed Amsterdam, Holland-based innovation and licensing company. Previously he was Senior Vice President with Intellect Electronics and also of MasterCard International.

Gemplus has announced the appointment of **Patrick S Jones** as Senior Vice President - Chief Financial Officer. He joins from Intel Corporation where he was Vice President, Corporate Controller.

Dr Peter Mihatsch has been appointed as the new Chairman of the Supervisory Board of Giesecke & Devrient GmbH. He has been a member of the Board for three years and will also be taking over as Chairman of the Advisory Board. He succeeds Dr Horst Köhler who was required to step down following his appointment as President of the European Bank for Reconstruction and Development in London.

Card Clear Plc, the supplier of credit card fraud prevention services, loyalty schemes and point of sale technology to retailers and card issuers, has appointed **Carl Clump** as Group Chief Executive with effect from 3 December 1998. Previously he was Managing Director of International Card Enterprises, formerly the Harpur Group.

Gemplus has strengthened its GSM team in the UK with additional appointments of **Mark Terry** as Sales Manager, **Liam Garstang**, promoted internally to a senior sales position, **Richard Fisher** as Account Manager and **Paul Everett** as Application Support Engineer.

Gemplus Supports Visa Cash

Gemplus has announced that it can supply both Visa Cash Smart Cards, and Mondex electronic cash cards using the MULTOS platform.

Gemplus says its GemVision family of multi-application Smart Cards is compliant with Visa Cash 1.6.1. which means they can carry the latest version of Visa's reloadable electronic purse, in addition to Visa credit, debit and member bank's own applications.

GemVision-Cash2K card has 800 bytes of EEPROM available after Visa Cash, enabling issuers to store proprietary information in additional applications. On request, Gemplus can port GemVision-Cash to 4K or 8K EEPROM cards. GemVision-Open Platform 1.0 is available with 16K EEPROM and allows banks to test Java Card value-added services by combining Visa Cash 1.6 with Visa debit/credit applets that come as standard with existing or new proprietary applets.

In another announcement, Gemplus said it has been officially certified by Mondex International for the manufacture and supply of Mondex cards using the MULTOS multi-application Smart Card operating system. It expects to sell the MULTOS cards to Smart Card issuers in all sectors, including finance, retail, travel, media and telecommunications. Pierre Lassus, Marketing Manager Banking and Retail at Gemplus, said: "We are confident that MULTOS will be widely accepted as a common platform by banking, credit and retail industries."

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Smart Card-ready Computers

Hewlett-Packard Company has announced that its corporate Personal Computers, notebooks and workstations are now optimised for quick installation of Smart Card readers from Gemplus and Schlumberger. Based on the PC/SC standard, the readers are fully compatible with the Microsoft Windows platform.

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Satellite Phone Contract for L&G

Landis & Gyr Communications is to develop and supply prepaid chip card satellite payphones to ICO Global Communications for ICO's global satellite system being launched in year 2000.

The new satellite payphone, based on L&G's Pulsar 50 payphone, will enable direct communications with ICO's medium orbit satellites, for the Global Mobile Personal Communication by Satellite system. Olof Lundberg, CEO of ICO, explained: "The ICO satellite concept, in conjunction with the payphones from L&G and local service providers, will bring modern communication facilities at moderate costs to rural areas where there is no telecommunication infrastructure yet available. This will be a great contribution to developing countries in South America, Asia and Africa."

Personalisation System

Landis & Gyr Communications has introduced a new personalisation system, PersamiX, for its Phoenix security modules. The system enables telecommunications operators to handle the personalisation process of Phoenix security modules - the security backbone for chip card payphone systems - at their own premises.

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OTI Opens Office in the US

On Track Innovations, the Israel-based developer of microprocessor contactless Smart Cards, has opened an office in the US to provide marketing and technical support to North and South American markets, and to key partners in the US. The establishment of OTI America follows a strategic alliance and OEM agreement with VeriFone / Hewlett-Packard Company. Ohad Bashan is the President and CEO of OTI America which is located at 4988 Great America Parkway, Santa Clara, California, CA 95054.

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Talking to the Trees

This Page:
Tree Loggers using TIRIS
Radio Frequency
Identification keeps
track of trees for safety,
maintenance, conservation
and woodland
management
[Texas Instruments]



Radio Frequency tags are being used to identify and keep track of individual trees for safety, maintenance, conservation and woodland management.

Originally developed to log the decay of telegraph poles, the new tree tagging system is now in use or is being trialed by local authorities in the UK in Leeds, Harrogate and Dundee, the National Trust and the Royal Parks of London as well as the Royal Botanic Gardens in New York.

Fujikura Europe has devised an intelligent labelling solution based on Texas Instruments Registration and Identification System (TIRIS) radio frequency identification technology (RFID). The system uses a low cost TIRIS electronic tag embedded in each tree. Data can be read with a simple handheld reader to allow safety or conservation officers or contractors to identify exactly which tree they are dealing with, check its history before they carry out any work and then record their actions. Data stored for future use may be the current physical size of the tree, obvious visual effects such as bare branches or infestation.

The handheld computers have been specially developed in conjunction with TIRIS by Blackroc which has re-engineered the rugged Psion Workabout computer.

The RFID transponders are available as read-only tags that simply identify the tree with a unique code that cannot be overwritten, or as read/write transponders with 1360 bits of memory.

New Brochure from TI

Texas Instruments has published a new brochure describing the company's tagging solutions for tracking and automatic identification.

The TIRIS publication describes solutions for tagging vehicles, products, goods, luggage parcels or people. It includes information on TI's new Tag-it ultra-thin read/write RFID tags small enough to be laminated between layers of paper or plastic, and describes TIRIS applications such as its vehicle anti-theft immobiliser system and the automatic payment system adopted by Mobil Corporation for refuelling purchases (SCN July 1998, page 140).

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Schlumberger / Atos Alliance

Schlumberger and Atos have formalised a year-long alliance known as ETIS (Electronic Transactions Integration Services), to provide comprehensive turnkey solutions for Smart Card applications. The move combines the capabilities of the two companies in Smart Cards and terminal products, transaction processing and call centre services, thus becoming one of the first end-to-end solutions providers in the industry today. "This new form of support will help organisations get Smart Card ideas operational fast, reducing risk, and reducing operational costs, through economies of scale," said Gerard Leger, President Test & Transactions Europe. "It is a logical market development which will help Smart Cards become the universal portable transaction tool of tomorrow."

ETIS is headquartered in Paris, and staffed by a team of Smart Card systems professionals drawn from Schlumberger and Atos. Europe will be the initial focus for the alliance, because of the relative maturity of its Smart Card markets.

Atos was created from the merger of Sligos and Axime. With 8,700 employees and more than FF 6 billion in sales, it is one of the largest IT services companies in Europe. Atos has been closely involved in the Smart Card market for many years through its ownership of Smart Card manufacturer Solaic - which was acquired by Schlumberger in December 1996.

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Smart Cards are for Everybody - Does this include Elderly and Disabled People?

John Gill

Over the next decade it seems likely that Smart Cards will be widely used by most of the population in developed countries. Applications will include telephone pre-payment cards, banking, public transport and loyalty cards. However in this rush to introduce new services, insufficient thought appears to have been given to making the systems user friendly to all the potential users of the services.

On examining current systems, one might be forgiven for thinking that the designer had decided that he represented the typical user. Designers tend to be young and technologically literate; if they had considered the needs of their parents or grandparents, we might have more user friendly systems today.

The Numbers

Older persons make up over 10% of the population, and the number of people with a disability is increasing since more people are living to an older age. The prevalence (per thousand population) of various groups is:

Blind	1
Low vision	13
Wheelchair user	10
Cannot walk without aid	56
Cannot use fingers	1
Reduced strength	27
Reduced co-ordination	14
Dyslexia (severe)	10
Intellectually impaired	37

Disability Aspects

The change from magnetic stripe to Smart Card offers a number of possibilities for making self-service terminals easier to use by everyone. For instance the customer's card could store information about the user's preferred interface. This could be something as simple as larger characters on the screen of an ATM; this could help people who wear bifocal spectacles since neither lens will produce a focussed image at the distance of a typical screen on an ATM.

A common request from older people is for more time to be allowed for them to use a terminal before being timed out. On an ATM, this would mean that their card would inform the terminal that they need more time between removing their card and the cash being sucked back into the machine. On a public telephone, it could mean changing the dialing mode to 'compose and send' (as is common on many mobile phones). On the automatic gates on London Underground, it could mean that the gates stay open for longer - a useful feature for guide dog owners who are liable to be cut off from their dog if they attempt to use the gates.

There are many other aspects of the user interface which could be inexpensively adapted to meet individual needs. The method of coding these user requirements is currently in the form of a draft European standard (prEN1332-4).

Contactless Smart Cards make life significantly easier for those with impaired vision since they no longer have to worry about inserting the card in the correct orientation. Also people in wheelchairs no longer have to raise themselves so that they can reach the card reader aperture. For elderly people, often worried about personal safety, it means that the card can stay inside their wallet.

A major, and often neglected problem, is one of training in the use of systems. With systems such as electronic purses, nobody is prepared to accept responsibility for customer training - this matter needs to be resolved in the near future if a significant part of the potential user population is not to be excluded from new Smart Card services.

The introduction of Smart Card systems offers possibilities of making self-service systems easier to use, but current indications are that many commercial organizations have ignored these possibilities for improving their services.

Further Information

Gill J M Access Prohibited? Information for Designers of Public Access Terminals. ISBN 1 86048 014 4, May 1997, revised March 1998. Also at <http://www.eyecue.co.uk/pats>
 Gill J M The Use of Electronic Purses by Disabled People: What are the Needs? ISBN 1 86048 017 9, August 1998. Also at <http://www.eyecue.co.uk/e.purse>

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Schlumberger: In total discretion...

By Severine Percetti

Right:
Jacques Cosnefroy
Below Right:
G rard Leger



Smart Card News has interviewed Mr Jacques Cosnefroy, President of Cards & Terminals, Schlumberger Test & Transactions, and Mr G rard Leger, President of Schlumberger Test and Transactions Europe, to review the state of the present and future Smart Card markets and the positioning of Schlumberger Test and Transactions within them.

Schlumberger Test and Transactions is no doubt a very discrete player in the Smart Card industry, despite holding a strong 35 to 40% of it and hounding Gemplus, its main competitor, very closely indeed.

This discretion is acknowledged by Mr Cosnefroy and Mr Leger and seems to be presented as a virtue. It principally manifests itself in the fact that the company is less prone to big or spectacular announcements of market forecasts, preferring as Mr Cosnefroy emphasises to "anticipate the needs of the market, maybe in a less aggressive way than our competitors. In 1997 900 million cards, only, have been delivered," he affirms. "One has to be extremely careful in handling Smart Card figures: they are often manipulated and forecast figures experience a genuine overbidding". Mr Cosnefroy wants to remain cautious for the years to come: "we forecast a production of 1.2 billion cards in 1998. In 2000, it should reach 2.2 billion units". "We are not pessimistic," insists Mr Leger, "the market is growing fast by 30 to 35% per year".

The 'Test and Transactions' division's subtlety is also dictated by its integration into its gigantic multinational Franco-American parent-company Schlumberger Ltd, a world-wide leader in Oilfield Services, and Resources Management Services. The group which employs 63,000 staff and operates in over 100 countries, made a turnover of \$10,65 Billion and enjoyed a net income of \$1.3 Billion in 1997.

Test and Transactions was formed in July 1997 with the grouping of two business units: Automated

Test Equipment (ATE), and Smart Cards and Terminals. The division specialises in transaction-based technology & associated systems, and semiconductor test equipment. It has 6000 employees working in 35 sales offices, 20 production sites and 9 Research & Development centres worldwide.

How much does the division weigh in the impressive revenues Schlumberger Ltd generates? It is very difficult to tell: its financial results are integrated to the ones of the rest of the group, and shrouded in secrecy. Mr Leger recognises though that the Smart Cards and Terminals related activities are a "modest part" of the whole group.

Schlumberger Ltd's interest in the Integrated Circuit technology goes back to 1979 with the set up of its first laboratory. Three years later a 'Cards and Systems' division was created whilst the first phonecard was issued for *France Telecom*. Questioned on Schlumberger Ltd's move into the nascent Smart Card industry, Mr Cosnefroy answers: "Schlumberger Ltd was much more diversified 15 years ago and its interest in Smart Card wasn't illogical at all in this context. It all started with a contract with France Telecom: from this application in the telecommunication field, others followed in banking and health. We have always based our applications on the French technology. If this technology had remained solely French, it wouldn't have stayed with Schlumberger Ltd. Its globalisation, the fact that it creates more than just products, but services, made its integration within the group totally legitimate. Besides if one looks at the portfolio of products of big multinationals such as *General Electric* it is extremely diversified, and in every activity that GE exercises, it is number one or two. The Smart Card and Terminals activity experienced growth and profitability. Looking back, its integration within the group was therefore totally logical."

Schlumberger's card production grew substantially indeed to reach 540 million in 1997 (including 250 million Smart Cards). Through a series of acquisitions¹ and creation of production centres², the group currently enjoys a production capacity of 900-950 millions cards³. 1998 looks set to be a good year with a 40% growth in volume boosted by telecommunications and banking applications. The terminal business has experienced the same spectacular growth and 900,000 payphone, banking, parking machine and ticket vending machine terminals are used worldwide. Overall net profits have increased in value seven fold so far.

Schlumberger Test and Transactions is inextricably linked to the oil division. The latter has recently quietly reinforced its solution-orientated structure with the grouping of all activities around two poles: a 'products' pole and a 'sales and solutions' pole.

Mr Leger explains why it has also been transposed to the Smart Card and Terminal activities:

"This new way of thinking, of working has an objective to answer the needs of the market. Clients want to have fewer and fewer intermediaries, suppliers, contracts, but a unique structure. This new organisation is well adapted to the card division. We have in addition to the cards associated products such as terminals, but also a number of systems, and an expertise going beyond the card area. Thus the grouping of the card business with the testing one has resulted in strong synergies. Our testing activities enable us to work hand in hand with the chip manufacturers to improve the productivity of the back end process (i.e the test & packaging of the component). We therefore enjoy a double level of competence in the field of semi-conductors (i.e. the manufacturing of modules from the bought wafer) and testing. This know-how gives us a credibility to offer complete solutions in specific areas such as semi-conductors, telecommunications (cards, public phones, GSM), banking and retail, municipalities, mass transit (parking and public transport), health..."

The first concrete application of the new solution-orientated organisation is the formalisation of Electronic Transactions Integration Services (ETIS): a year-long partnership between Schlumberger and Atos⁴, an IT services company specialising in transaction processing and call centre services. This alliance aims at "supporting smart service roll-outs by banks, municipalities, mobile operators and health organisations by delivering an integrated offer of cards, terminals and transaction processing".

Could this new structure have been adopted to anticipate and answer the changes taking place in the Smart Card industry (i.e. a shift in the balance of power between card manufacturers and software vendors)? Mr Leger insists on its global implementation by the whole group. Yet this organisation is seen as solid enough to face the coming new industry configuration, and "its adoption facilitated by the seniority of the company".

The latter point is reportedly crucial in distinguishing Schlumberger Test and Transactions from its competitors. "The strength of the division rests on the culture of its parent-company, its global vision, its service orientated tradition associated with a choice of software, cards and terminals" answer without hesitation Mr Cosnefroy and Mr Leger. The comfortable financial foundation provided by Schlumberger Ltd is certain and its global culture, is a definite plus to anticipate and start the necessary reconversion cards manufacturers have to face.

Asked where the division sees itself in a few years time, they explained: "We want to remain a leader in the products field (cards and terminals) and we are going to work at developing a turnover in the solutions field. One cannot do solutions without a product basis. The example of IBM is an interesting one to follow."

¹ From 1994 the division has dramatically grown with the acquisition of Malco, and Danyl Corp; Cowells in 1995, Printer in 1996 and of Solaic in 1997, the number 3 in the industry, holding 18% of the European market.

² The last one has taken place in Mexico, in August 1998. The new facility has a total monthly output of 5 million magnetic stripe cards and 5 million Smart Cards.

³ All cards mingled.

⁴ Atos was created in 1997 from the merger of two IT service companies: Sligos and Axime. Atos owned the card manufacturer Solaic, and sold it to Schlumberger in December 1996.

The International Smart Card Industry Directory 1999 / 2000

■ We are currently researching the fourth edition of the The International Smart Card Industry Directory, due to be published in February 1999. In contrast to previous years we are publishing this highly regarded source of information exclusively in PDF format. In order to assist you in understanding how the new-look directory will work we have created a demonstration file which can be downloaded free of charge by visiting the following link:

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The deadline for submissions is : **31st December 1998**

Smart Cards to Cut Flight Delays

This Page:
HITAG identification technology could reduce flight delays by identifying passengers as they walk through RFID reader-gates [Philips Semiconductors]



British Airways has been testing Philips Semiconductors' HITAG radio frequency identification technology (RFID) to quickly identify late passengers in an airport to reduce flight delays.

It is estimated that around six per cent of delays to international flights are caused by passengers arriving late at the departure gate, resulting in financial losses to airlines and frustration for passengers who arrived on time.

British Airways carried out a trial called Cross Check at its London terminal in Victoria and at London Gatwick's North Terminal Airport. More than 15,000 passengers with issued with RFID cards programmed with their personal flight and boarding information, including flight number and date, check-in time and passenger name.

As passengers walked by RFID reader-gates next to passport control, their contactless cards were read automatically. At the departure gate, passengers returned the cards to airline staff for re-use. Missing passengers could then be paged by name.

Market research by British Airways showed a positive response from staff and passengers for a system helping to avoid delays. HITAG is a long-range RF identification system already used in access control, container identification, animal identification and asset tracking. Available as cards or tags, the contactless technology can operate up to a distance of one metre and an anti-collision feature enables the reader devices to read several cards and tags at once.

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Takeover of ORGA

Bundesdruckerei GmbH has acquired additional shares to take the majority interest in Smart Card manufacturer ORGA Kartensysteme GmbH. The majority share holding, however, is subject to approval by the German Federal Office of Fair Trading.

A statement from ORGA said that this strategic investment gives the company a leading position in the field of chip cards while, simultaneously, their range of products have been increased and cover high-quality products of security printing (such as banknotes), high security cards (for example the EU card driving licence for Germany) and complete identification document systems.

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ICL Acquires US-based PTI

ICL has acquired 100 per cent of Product Technologies Inc. (PTI), the US-based Smart Card systems company, for around £4 million.

Formed five years ago, PTI is headquartered in Middletown, Connecticut and has a branch office in Moscow. It specialises in software for card management systems and the provision of end-to-end Smart Card solutions, including ICL's SmartCity which it co-developed with ICL.

With current sales in the region of £3 million, PTI has an installed base of over 60 sites and, in the last year, has installed systems in 18 universities, three military bases, a shopping mall, a corporate headquarters and a football stadium.

ICL says that PTI's co-founders, Bill Mangino and Luke Weinstein, will remain with the company and become key figures within ICL's Smart Card Unit reporting to Philip Eames, ICL's Director of Payment Systems.

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Intelligent Transportation Systems

New Electronic Payments Systems (EPS), particularly Smart Cards, will significantly influence successful deployment and customer acceptance for certain Intelligent Transportation Systems (ITS) products and services, according to a new report from SRI Consulting.

As transportation operators strive to improve services and reduce operating costs, they have been launching a number of initiatives aimed at replacing existing payment methods with electronic payment techniques, says the report.

These include public transit ticketing, road toll collection, taxi fare and parking payment involving a number of technologies, including RF tags, magnetic stripe cards, and both contact and contactless Smart Cards.

The report, *Electronic Payment Systems*, says that mass transit systems in Europe and Asia will use contactless Smart Cards, and operators will introduce Smart Card technology as soon as existing systems need replacement, without recourse to the banking community and in spite of the high cost of implementation.

Operator benefits in terms of lower operating costs and improved passenger throughput are proving to be sufficient motivators for transit operators. Contactless Smart Cards will be the technology of choice.

Low US consumer acceptance of Smart Cards will lead most operators to retain magnetic stripe card technology until after 2004.

Banks will need to support transit applications initially with dual-interface technology. Banks also realise that they will need to support transit applications to improve consumer acceptance.

In electronic toll collection, the dominance of RF tag technology reflects a lack of consumer demand for multi-functional alternatives. The most common migration from RF tags will be to dedicated operator-provided prepaid contact Smart Cards.

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