

Things changing the world are smaller and smaller.  
Companies that are inventing them, are bigger and bigger.



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## Smart Cards in India's Rise to IT Superpower

India has become an IT superpower and Smart Cards are playing their part from streamlining the issue of drivers licences to boosting milk collection in rural areas and giving more power, albeit slowly, to women.

This month, Smart Card News joined journalists from Germany, Italy and Russia on a Smart India 2001 tour organised by ORGA Kartensysteme of Germany and their partner in India, Smart Chip, headquartered in New Delhi.

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**Don't Forget!**

Our Website containing daily News On-Line, and information about the full range  
of SCN services, can be found at the following address: [www.smartcard.co.uk](http://www.smartcard.co.uk)

## Under \$3 Multi-application Card

MasterCard International has announced that with Australian Smart Card provider Keycorp, it will be introducing a multi-application Smart Card costing under \$3 and anticipates that 15 million cards will be rolled out worldwide by 2003.

Art Kranzley, MasterCard's Senior Vice President, Global e-Business, said: "A secure, multi-application Smart Card for under US \$3.00 removes the last barrier our member financial institutions may have in migrating to chip-based cards."

The 16K chip is the first global implementation of the MULTOS 4 multi-application operating system developed by Keycorp, and available as a standard program on the Infineon platform. A 32K version will be available in 2001 on a variety of semi-conductor platforms, including Infineon and Philips.

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## RBS Orders 60,000 Terminals

Dione is to supply The Royal Bank of Scotland Group with up to 60,000 Xchequer modular EPOS/EFTPOS terminals and support systems. The terminals, for merchant retailers, have both magnetic stripe and Smart Card readers.

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## Turkish Order for VeriFone

Turkey's AK Bank in Istanbul, has ordered more than 8,000 VeriFone Omni 3200 terminals and SC542 Smart Card readers in preparation for Turkey's migration of debit/credit cards to chip cards complying with the EMV (Europay/MasterCard/Visa) specifications. They will be supplied through VeriFone partner Iletisim Teknoloji Danismanlik Ticaret (ITD).

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## New Members for SIMalliance

Bull and Graphium Danmark have joined the SIMalliance founded last year by leading SIM card manufacturers to standardise technology for mobile Internet services.

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## ORGA Launches SGO-WAS

ORGA Card Systems has developed a Smart Card system combining easy Internet access with high level data security. Called SGO-WAS (Smart Card Goes Online Web Authentication Server), it provides Internet Service Providers (ASPs) with protection and control of their content.

Companies that provide services via the Internet will issue a customer Smart Card and a code to allow access to their services.

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## mysmart Mouse for UK

UK electronics retailer, the Dixons Group is to distribute mysmart.com's mysmart mouse pad system in the UK and Ireland, rolling out 50,000 units at its Dixons, Currys and PC World stores.

Jointly marketed and distributed by Dixons and UK ISP (Information Service Provider) Freeserve, the pad will be sold for £29.99 under the brand name "First Click Internet Power Pad."

The mouse pad features include: preprogrammed buttons that take users to popular Web sites; programmable buttons link them to their favorite Web sites; a mini-browser, a Smart Card and reader that enable users to save their favorite sites and access them on any computer equipped with the mouse pad by inserting the card into the pad reader.

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## The SCIA and the SCF Merge

The Smart Card Industry Association (SCIA) and the Smart Card Forum (SCF) are combining to form a new organisation called the Smart Card Alliance to act as a single voice for the US Smart Card industry.

The Alliance's 2001 program will include: the launch of a US Smart Card market survey, the rollout of the multi-faceted Smart Card Network Security initiative, introduction of a comprehensive reference Web site, continuation of the six-year old Educational Institute, and quarterly meetings focused on specific topics.

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## Biometrics Give Parental Control

Keyware has joined the HAVi organisation, a non-profit association advancing the Home Audio Video interoperability (HAVi) standard, and will secure television parental controls with biometrics and a PIN code or password to ensure that children are only watching parent-approved programs.

"In association with HAVi, Keyware is making it almost impossible for a child to tamper with the television parental controls," said Francis Declercq, President and CEO of Keyware. "While the child might be able to crack a PIN code, the parent's finger is needed to access the controls."

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## Rangers FC to Use Smart Cards

Rangers Football Club in Glasgow, Scotland will introduce Smart Cards this month for 30,000 of their season ticket holders. The card will at first be used for access control to the ground and for purchases of refreshments but the club is looking into further uses of the card such as a loyalty scheme.

### Website

✉ www.rangers.co.uk

## MAXIMUS Wins \$3.6m Contract

MAXIMUS has been awarded a \$3.6 million Smart Card contract by the US Department of Veterans Affairs (VA) to issue the "VA Express Card" to 200,000 veterans in the Greater Chicago, Illinois, area by June 2001.

Initially, the card will contain an individual veteran's administrative, clinical, and benefits eligibility information, as well as electronic keys that will allow veterans to conduct digitally-signed transactions over the Internet.

The Smart Card will enable information sharing and express service delivery within each administration of the Department of Veterans Affairs: Veterans Health Administration, Veterans Benefits Administration, and National Cemetery Administration.

The contract has been awarded under the US General Services Administration (GSA) ten-year, \$1.5 billion Smart Identification Card Program. The GSA contract is a multiple award schedule for which MAXIMUS and four other vendors were qualified to provide Smart Card services.

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## ORGA Visa Cash Cards for BoA

ORGA Card Systems will be supplying Visa Cash Disposable 2.0 Cards to Bank of America in a US Department of Treasury project to streamline the trainee payroll process for the military.

Trainees at selected US Army and Air Force bases will receive the disposable, stored-value cards as a cash advance against their first payroll payment. The cards will be accepted at various merchants on the military base for purchases of products and services such as food, toiletries and haircuts.

The bases include Fort Benning (Georgia), Fort Jackson (South Carolina), Fort Knox (Kentucky), Fort Leonard Wood (Missouri), Fort Sill (Oklahoma) and Lackland Air Force Base (Texas).

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## Infineon Invests \$30m in Ramtron

Ramtron International Corporation, a developer of speciality semiconductor memory products, has announced that Infineon Technologies is to invest \$30million in the company. Earlier this year, Infineon also made an investment in Ramtron's DRAM product subsidiary, Enhanced Memory Systems, Inc. Infineon will provide Ramtron with \$10 million in cash and \$20 million in Infineon stock, in exchange for an approximate 20 per cent stake in Ramtron.

The companies have also entered into a separate cross-license agreement that provides Infineon with a non-exclusive license to Ramtron's FRAM memory technology, and Ramtron with access to certain Infineon technologies relating to the fabrication of FRAM memories.

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## Rome Rolls-Out Smart Ticketing

The first full-scale rollout by a major city in Europe of a contactless Smart Card ticketing system that integrates all modes of public transport has been announced by the ERG Motorola Alliance. The Metrobus system is being rolled out for ATAC, the public transport authority which operates the bus, rail and tram network in Rome and the surrounding region of Lazio.

Thousands of Smart Cards have already been issued and this will increase to more than one million cards by the end of 2001.

The system supports all of the operators providing bus, tram, train and underground services within the city of Rome and Lazio - 5,000 buses, 3 light rail lines and all 76 rail stations. The system delivered comprises the Smart Cards, 9,700 validators, 4,000 point-of-sale devices, 200 portable card readers, depot and station computers, a sophisticated communications system, central computer network, card issuance centre with card issuing devices in 38 help centres, and maintenance support.

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## Bulgaria Licenses Proton

Bulgarian national payment card network operator, BORICA, has become the Proton licensee for Bulgaria and will launch three Proton World-managed pilots this year before migrating Bulgaria's 550,000 magnetic stripe payment cards to R4 Proton Smart Cards.

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## One Million Card Order for Bull

Bull Smart Cards & Terminals is to provide more than one million debit-credit Smart Cards to the Turkish bank T.Garanti Bankasi. The Smart Cards will be fully compatible with the Europay, MasterCard and Visa (EMV) Specifications.

## Rabobank Orders 300,000 Readers

Dutch bank Rabobank has ordered 300,000 VASCO Digipass 800 hand-held authentication and digital signature devices and will roll out this initial order to enable a segment of its six million e-purse Smart Card holders to conduct secure Internet and PC banking from anywhere at any time, without being dependent on a specific computer, software, or Smart Card terminal.

### Website

- ✉ www.vasco.com

## People on the Move

**Heinz Schäfers**, one of the founders, has been appointed Managing Director of Bluefish Technologies. The company also appointed **Dr Gerd Pfeiffer** as Head of Engineering.

Datacard Group named **Greg Thom** as Senior Vice President and General Manager of its government solutions group.

Hypercom Corporation promoted **Robert McLaughlin** to Managing Director of its Europe, Middle East, Africa subsidiary, Hypercom Europe.

Proton World appointed **Mike Nash** as President of Proton World Americas, a new division located in Redwood City, California.

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## Industry Review 2000

The year 2000 saw many company take-overs, joint ventures and alliances, too many to mention them all. There were new products, including chips with much larger memories, and more applications coming on-stream, notably in public transport ticketing with contactless Smart Cards.

There was growing interest in e-commerce and m-commerce with the involvement of public key encryption for digital signature security. Banks continued to migrate their payment cards from magnetic stripe to chip cards and we saw further expansion of electronic purse cards and the drive towards multi-application cards.

The long-awaited adoption of Smart Cards in the United States was given a boost with the award of significant government contracts by the US General Service Administration for a Smart Access Common ID project valued at \$1.5 billion over 10 years. The contracts went to five leading companies who are involving many Smart Card and biometric companies around the world as suppliers.

### Flotations

UK-based Smart Card supplier **ID Data plc** floated on the Alternative Investment Market (AIM) of the London Stock Exchange. The company was formed in 1988 by Peter Cox with the purchase of a division of BPC, which operated a card production plant in Corby. In 1999, it formed a joint venture with Toshiba Corporation and Toppan Printing Co of Japan, to form TTI Card Technology Europe. In the same year, ID Data acquired the Smart Card operations of GPT Card Technology and McCorquodale Card Technology.

### Acquisitions

**Giesecke & Devrient** took over the National Westminster Bank's London-based personalisation centre for financial cards.

**Schlumberger** acquired Canadian start-up **telweb** to position itself in the Web-based e-commerce and information networking market.

**On Track Innovations (OTI)** acquired **SoftChip**, a chip design house with proprietary technology, with plans to develop Smart Card microprocessors with both contact and contactless interfaces.

**Datacard Group** acquired London-based **platform seven**, developers of Mondex electronic cash, from NatWest Bank, part of the Royal Bank of Scotland Group, for an undisclosed amount.

**Gemplus** bought **ODS Landis & Gyr**, the Smart Card division of Landis & Gyr Communications, to reinforce its market position in Germany and central Europe.

**Oberthur Card Systems** acquired London-based **SmartCards International** with plans to combine its Card Management Solution with SCI's Nautilus system for an end-to-end solution giving instant access to detailed information about issuer's cards.

**The Pathways Group** agreed to acquire **TicketPlus**, a privately held computerised ticketing company headquartered in Honolulu, Hawaii.

**Keyware Technologies** took over **Alacarte Engineering** and formed **KeywareCards** to integrate its biometric authentication systems into Alacarte's Smart Card software.

**Upgrade International Corporation** signed a letter of intent to acquire 100% of **The Pathways Group** in an all-share transaction.

**The Eastern Company** agreed to purchase the assets of **Greenwald Industries** and **Greenwald Intellcard**, both subsidiaries of PubliCARD, for approximately \$22.5 million. Greenwald Industries provides coin meter products used primarily in the commercial laundry industry while Greenwald Intellcard's products include Smart Cards, card readers and money transfer stations. Eastern manufactures and markets locks, latches, fasteners and other security hardware.

**ACG**, Wiesbaden, took a 51% holding in **Logos Smart Card** headquartered in Lyngby, Denmark. Following an equity stake in **Bluefish Technologies** in May 2000, this move strengthened their GSM and WAP product strategy and boosted their Smart Card marketing segment.

**Sonera Corporation** took over **iD2** and transferred ownership to its wholly-owned subsidiary **Sonera SmartTrust**. iD2, headquartered in Sweden, offers PKI (Public Key Infrastructure) software for the Internet and Smart Card technology. Sonera SmartTrust provides solutions for wireless e-commerce.

**Southland Financial** signed a memorandum of intent to acquire **Gold Phoenix Associates** which has a 60% interest in "Ai Wei" Information Technology Corporation, a Chinese company with an exclusive right to distribute identification Smart Cards for the Chinese Health Card Registration and Management System requiring 240 million people to have an ID Smart Card over the next five years.

**Gemplus** took over **Celo Communications**, a global provider of PKI (Public Key Infrastructure) solutions for digital signatures, access control and network communications.

**Ingenico Fortronic** bought **Saunders Jefferies**, a provider of electronic point of sale payment software, back office systems and business-to-business applications. The Saunders Jefferies name was changed to **Ingenico Transaction Systems**.

**AmaTech USA**, a provider of contactless Smart Card manufacturing and development, acquired **NBS Card Services** which supplies over 50 million cards each year for Visa and MasterCard.

**Boppers Holdings** closed the acquisition of **eSmart Systems** (eSmart) through a merger transaction with a subsidiary of Boppers. Under the merger, eSmart became a wholly owned subsidiary of Boppers. eSmart holds an exclusive technology license in China to manufacture and supply proprietary, multi-application Smart Cards.

### Investments

**Schlumberger** invested US \$3 million in **ActivCard** whose digital identity technology is a strategic component in Schlumberger's Smart Card-based ID solution for physical and network access.

**Groupe Bull** sold its 29.7 per cent holding in **Ingenico** to a group of investors led by Marc Lassus, founder of Gemplus. The transaction involved a total of 105 million euros.

**Royal Bank of Scotland** invested £4 million in a 39% stake in e-commerce company **TrustMarque**, and they launched a secure on-line tendering system called TenderTrust based on Smart Card technology.

**TVG Technologies**, of Israel, purchased 49.9% of **Embers Distributing Company** for \$2 million. Embers is building a Smart Card factory for supply primarily to the banking industry.

**FirstGroup**, one of the largest UK bus operators, acquired a 20% interest in **Prepayment Cards Limited** (PCL) from ERG Limited. PCL is the joint venture company set up by ERG, Stagecoach Holdings and Sema Group UK to provide a Smart Card issuing and clearing system for UK-wide transport operators.

**Texas Pacific Group**, an international private equity firm, agreed to invest between \$300 and \$500 million in equity into **Gemplus** which said it would use the new capital to expand its presence in the wireless communications, e-commerce and Internet security markets.

### New companies

**Bluefish Technologies**, financed by **ACG** (51% shareholding) and run by four senior ex-ORGA employees, was launched to supply the Smart Card SIM market. Bluefish said it would not manufacture cards but would work with card manufacturers willing to embed Bluefish operating systems and products into their SIM cards.

**Gemplus** launched **ThinkPulse** to commercialise the smartX software technology introduced by Gemplus last year to provide a unifying application framework for Smart Card development across multiple platforms and operating systems.

### Company changes

**Card Services International** (CSI) changed its name to **CardBASE Technologies** on 1 January, 2000, to reflect its focus on its core technology the chip card management product CardBASE.

**GiroVend Cashless Systems** restructured to support business growth. GiroVend's holding company was re-named **Transacsys Plc.**, while the cashless systems business trades as **GiroVend Ltd** with three separate business units: GiroVend Solutions, GiroVend Technologies and GiroVend Manufacturing.

**PubliCARD** brought together its two subsidiaries, **Tritheim Technologies** and **Absec**, under the new name **Infineer** to focus on its Smart Card intellectual property for innovative broadband solutions.

**Bull** created a new subsidiary, **Evidian** (formerly BullSoft software division of Bull) to deliver secure e-infrastructure management solutions.

## Alliances

**CyberMark**, supplier of electronic commerce solutions for closed campus environments, formed an alliance with **Coin Acceptors** to provide a system for electronic cash and a loyalty application with vending machines from Coin Acceptors.

**Strålfors** and **Fingerprint Cards** teamed on the development of electronic verification of personal identity for Smart Cards, access control and computer log-on using fingerprint technology.

**Mondex International** and **FutureTV** partnered on electronic cash for personalised television services.

**Sonera SmartTrust** and **Gemplus** announced that they would market a Gemplus GSM SIM card featuring digital signature and Public Key encryption enabled by Sonera SmartTrust technology.

Four leading global Smart Card manufacturers - **Gemplus**, **Giesecke & Devrient**, **ORGA Kartensysteme** and **Schlumberger** - formed the **SIM-alliance** to maximise the GSM operator benefits from SIM Card and SIM Application Toolkit usage in the growth of value-added services.

**CardBASE Technologies** and **Visa International** announced their collaboration in the development of software solutions to enable Visa member banks to issue multi-application chip cards. The system, based on the Common Electronic Purse Specifications (CEPS), will support the Visa Cash electronic purse product.

**Cubic Transportation Systems** and **On Track Innovations** (OTI) signed a licensing and co-operation agreement under which Cubic would integrate OTI's EYECON Smart Card products with Cubic's Tri-Reader multi-protocol contactless Smart Card reader, the first device capable of processing three contactless Smart Card types.

Four members of the **MAOSCO Consortium** - Dai Nippon Printing Co, Hitachi, Fujitsu and MasterCard International - set up an Association in Japan to promote MULTOS.

**G&D Security Card Systems** and **CIT** formed an alliance to promote Smart Cards in North America and internationally by jointly developing and marketing end-to-end solutions for the financial and healthcare sectors.

**Cardis Enterprises International** (Cardis) signed an exclusive licensing agreement with Wellington-based **EFTPOS New Zealand** to commercialise the deployment of Cardis' Ultimus Smart Card-based payment system into the Australian and New Zealand markets. Ultimus enables the extension of the EMV (Europay, MasterCard, Visa) credit and debit card products into micropayment.

**Cardis** also signed an exclusive licensing agreement with **Altech Smart Card Technologies** to commercialise the deployment of Cardis' Ultimus Smart Card payment system into South Africa and neighbouring territories of Kenya, Zimbabwe, Namibia, Mozambique, Botswana, Lesotho and Swaziland.

**beenz.com**, creator of the Web's currency beenz, and **Mondex International** agreed to develop a Smart Card capable of carrying Mondex e-cash, beenz and complementary e-commerce services.

**On Track Innovations** (OTI), contactless Smart Card supplier, and **Credencial Argentina**, a provider of credit cards and a transaction processing network in Argentina, formed a marketing alliance to introduce products based on Credencial's financial platform and OTI's products such as a Smart Card for retail, fuel, financial and health applications utilising the Credencial's network.

**ICL** and **Visa USA** agreed to develop a software application enabling Visa's Member banks to locally manage the collecting and processing of Visa Cash purchase transactions.

**Oracle Corporation** and **Entrust Technologies** announced a co-operative agreement to integrate their e-business security technologies to further strengthen Internet, business-to-business and enterprise applications by providing customers with Oracle's highest levels of commercially available data security with out-of-the-box use of Entrust's Public Key Infrastructure (PKI) technology.

**CyberSafe Corporation**, a provider of network security solutions, and **Certicom**, specialists in mobile e-business security, agreed to combine Smart Card-based user identity systems with digital signatures.

**DMR Consulting Group** and **Gemplus** joined forces to offer teleticketing solutions to the mass transit sector in Canada.

**Welcome Real-time** and **Bull Smart Cards & Terminals** partnered to accelerate EMV (Europay/MasterCard/Visa) migration by integrating Welcome Real-time's XLS' E4 software with Bull's Smart EMV payment card family.

**Electronic Identification (EI2)** teamed with **CPI Card Group** and **Smart Card Integrators** to provide Smart Card identification and security solutions using the EI2 Electronic Passport Access Control Systems (e\*PACS) and the EI2 Electronic Personnel Identification and Control Systems (e\*PICS) as their platform.

**Oberthur Card Systems** partnered with **Philips Digital Networks** to develop a secure, flexible and personalised e-wallet service. The e-wallet service is based on Oberthur's AuthentIC card solution which allows a card to be inserted into a dual-slot set-top box with the conditional access card occupying the remaining slot.

**VeriFone** and **Landis & Gyr Communications** partnered to develop an EMV-compliant solution for the unattended payment market. It was agreed that L&G's CADix card-accepting device would be coupled with VeriFone's EMV software and libraries to enable chip based card payment at unattended payment stations such as parking meters, vending and ticketing machines.

**Campus Pipeline** and **CyberMark** formed an alliance to combine CyberMark's Smart Card technology with Campus Pipeline's college and university intra-nets to enable schools to issue ID cards that can be used as secure electronic identification for online campus services.

**CyberMark** also teamed up with **USIS America**, an Application Service Provider (ASP) of healthcare services, to implement an emergency Smart Card system at colleges and universities.

**Learn2.com**, a provider of e-learning solutions, partnered with **Compaq Computer Corporation** to offer e-learning to Compaq's customers. The agreement includes a custom library of multimedia content, deliverable over the Internet, that will be distributed on co-branded Learn2.com Smart Cards.

**Oberthur Card Systems** partnered with **CS Communication et Systemes** to offer a secure end-to-end solution for e-business using OCS's AuthentIC card

supported by CS' PKI (Public Key Infrastructure).

**Cubic Transportation Systems** and Australian electronic commerce and Smart Card company, **Keycorp**, joined forces to deliver payment solutions across Australia's transit and financial services markets. The companies collaborated on a design to introduce ticket sales functionality to the Keycorp terminal with the ticket digitally encoded on contact and contactless Smart Cards.

**AetherSystems** announced that its European venture with **Reuters** and **SILA Communications** had signed a worldwide licensing agreement with **Gemplus**. The agreement called for SILA to incorporate its compression software into a new Gemplus Java-powered SIM card based on a new chip with an initial capacity of 64K bytes to enable users to receive large volumes of data and some broadband services on their hand held devices.

**Oberthur Card Systems** announced a partnership with **Entrust Technologies** to develop solutions for putting WAP (Wireless Application Protocol) digital certificates onto all Oberthur Smart Card products, including SIM/WIM cards for telecommunications, banking and authentication.

**On Track Innovations** and **Touch Technology International**, a provider of Smart Card application software, signed a technology alliance bringing together OTI's expertise in contactless micro-processor-based Smart Card products and TTI's back-end settlement expertise.

**Fingerprint Cards** and **Litronic** agreed to cooperate on developing a new authentication solution combining fingerprint biometrics and Smart Card based digital signatures on the Microsoft Windows Powered Smart Card platform.

Two leading names in card production - **Oasys Technologies**, based in the UK and **Gilles Leroux** of Orleans in France - joined forces to achieve a complete card production package with Oasys providing equipment for the production of the card body, and Gilles Leroux, the machines for implanting and personalisation of the microchips and finishing processes such as SIM plug in.

**Bull** signed a technological, marketing and shareholding agreement with **Cardsoft**, a provider of open platform software on small electronic devices, to develop and market portable, compact and secure software for small devices.

*Continued on page 12*

## Smart India 2001 - Part 1

### Smart Cards in India's Rise to IT Superpower

*Continued from page 1*

India has long been renowned for the skills of its software programmers and has attracted multi-nationals like Computer Vision, Novel, BT, IBM and Microsoft.

Only last month, Datacard announced it was expanding its software development centre in Bangalore - India's silicon valley - and expected to employ around 50 full-time developers by the end of 2001 to focus on the development of multi-application Smart Card products and digital identity solutions.

The fact that major companies are setting up businesses in India is a boost for a country whose programmers are in high demand in the US and Europe. With millions of its people living in extreme poverty, India can ill afford to lose the best of its talented workers in a "brain drain" to other countries.

Mobile communications is another market for Smart Cards although GSM networks are based on the major cities.

Sanjeev Shriya, Managing Director of Smart Chip, said India, in the recent past, had made phenomenal strides and become an IT superpower. Part of this revolution had been the use of Smart Cards used by the billions around the world for a variety of purposes, but India had been different.

"When Smart Chip and ORGA set out the strategies for the Indian Smart Card market, it was clear that success lay in addressing some of India's deep-rooted, age-old problems, and yet, attempt to leapfrog into the present.

"With the use of Smart Card technology, we have been able to provide solutions to challenges like upgrading India's Vehicle and Driving Licence administration, which needs to routinely manage nearly 100 million individual records. A small beginning has been made in (the state of) Gujarat, where we are in the process of touching the one million mark. This only goes to show, that while much has been achieved, much more needs to be done.

"Another milestone has been introducing Smart Cards for rural dairy co-operative members, some of them exclusive for women."

### Driving licence project



The Smart Card-based driving licence project started in the state of Gujarat in January 1999. The first and largest computerised issuing centre in the Ahmedabad Regional Transport Office (RTO) was quickly followed with another 24 issuing points.

Currently some two million Smart Card driving licences have been issued, with 1,500 licences added daily. The cards are being issued to new drivers and those whose licences have expired. The total will eventually reach 10 million licences.

The system is not only unique in India, but a world first as it combines biometric fingerprint authentication technology and digital signature in the Smart Card. Enrollment takes about four minutes.

There was a very long queue waiting for the new licences at the Ahmedabad office and the new licence seekers were further delayed while the visiting Press party was briefed on the scheme and individually went through the enrollment process.

This involved giving personal details and, usefully, blood type and details of a person to be contacted in the event of an emergency; being photographed with a video camera, giving two thumb images on a fingerprint capture device and then signing on a digital signature pad.

The photograph, driver's name and address, date of birth, blood group, licence number and validity are printed on the card and the signature and thumb print templates loaded into a 1K byte memory card

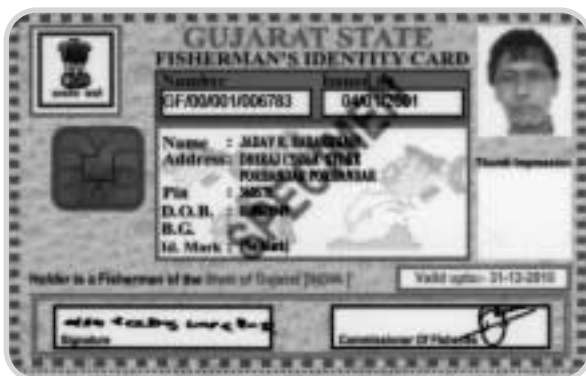
from ORGA with the SLE 4428 chip from Infineon Technologies. To date this office alone has issued over 800,000 Smart Card driving licences.

The chip also contains details of any driving offences, so police officers can see any offences committed by the holder. The card can also store new offences on the chip and transmit the data to a central database.

The new licence enables the Indian authorities to use handheld Smart Card readers to positively identify drivers at road blocks, when crossing state borders and when stopped for traffic offences.

Gujarat is also planning to use Smart Cards for vehicle maintenance and vehicle logs. For certain types of vehicles, card use will be extended to include test certifications, permits and receipts.

### Card for fishermen



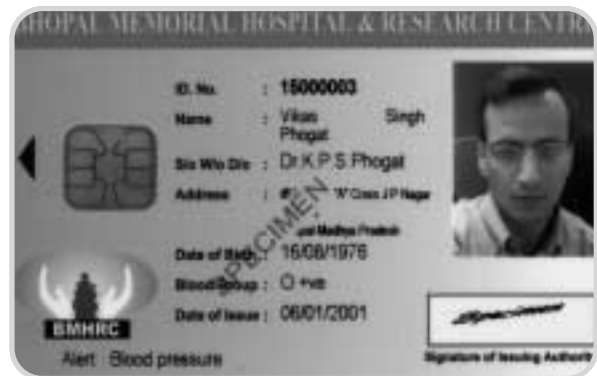
Smart Chip and ORGA have completed 40 different Smart Card schemes in India. Another example, also in the state of Gujarat, is for the fishermen's association.

Gujarat, in the north west of India, has a long sea coast and also borders with Pakistan. Smuggling is rife in the border area and there is often difficulty in identifying who comes from where.

To solve that problem around 100,000 Smart Cards have been issued to fishermen for identification purposes at border checks.

While some fishermen may not like that, they are reported to be happy that the card will also identify them for compensation in the event of a cyclone or disaster like an oil spillage affecting their livelihood. In other words - no card no compensation.

### Health card for disaster city



Another project is the health card scheme at Bhopal, capital of Madhya Pradesh, India's largest state.

On 3 December, 1984, an explosion at the Union Carbide factory turned the city into the site of the world's worst industrial disaster. Deadly toxic gas used in the manufacture of pesticides leaked out and was blown over the sleeping city.

The death toll to date is estimated at 16,000 people and over half a million suffer from respiratory illnesses.

In the face of such a large-scale disaster, medical services were not only inadequate and underfunded but corrupt as well. Doctors in public hospitals commonly set up private clinics making the sick pay for treatment that they were entitled to free.

As part of a compensation package, a new system was set up to care for those affected by the escaped gas and a Smart Card scheme started last April. So far some 200,000 cards have been issued.

The card contains name, address, date of birth, classification of illness, allergies etc and records healthcare visits and treatments.

As well as acting as a patient identification and medical record card, it also ensures that those entitled to free medical attention can obtain it.

Next month we report on a revolutionary Smart Card-based milk collection system in India.

#### Contacts

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## Industry Review 2000

*Continued from page 9*

### Joint Ventures

**ACG** (with **MicroDatec**, **Kronegger Informations-systeme** and **Celectronic**) and **Utimaco Safeware** set up a joint venture in Wiesbaden called **Omnikey**. Utimaco Safeware manufactures Smart Card-based security solutions, MicroDatec specialises in Smart Card reading systems, Celectronic manufactures chip card terminals while Kronegger Informations-systeme provides contactless writing and reading systems.

**Leapfrog Smart Products** and Chinese IT company **Top Group**, established a joint venture, **China Capital Ventures (CCV)**, to own and operate [www.Chinese.com](http://www.Chinese.com) to utilise the Internet security Smart Card system developed by Leapfrog. The agreement gave Leapfrog 49% of Chinese.com for business-to-business transactions to and from Chinese businesses.

Israeli high-tech company SuperCom's subsidiary **SuperCom Asia Pacific**, established a joint venture with **Campus Online**, a Web-based educational Application Service Provider (ASP) in Asia Pacific. The joint venture, called **Campus Smart**, plans to provide a multi-function Smart Card (Campus ID) for schools and universities, initially targeting the Hong Kong educational market. The Campus ID card production will be supported by the joint venture company **New Concept Technology**, formed by **SuperCom Asia Pacific** and **Shenzhen Mingwah Aohan High Technology Co.**, the second largest Smart Card manufacturer in China.

**Toppan Printing Co** and **Gemplus** reported the establishment of a joint venture company called **Toppan Gemplus Services Co Ltd** to provide card issuance services for the Japanese market.

### Financing

**The Pathways Group** closed a \$2.3 million private placement of 842,200 shares of common stock with a group of private investors organised by Creditanstalt AG of Vienna, Austria.

**Nanopierce Technologies** closed an equity financing of up to four million dollars with Equinox Investors, of New York City, with plans to capture a share of the Smart Card industry.

**Welcome Real-time** announced funding from three new shareholders - Gemplus, Avenir Telecom and Dassault Multimedia - and plans to secure a key role in the electronic and mobile commerce markets.

**First Access** raised \$4.7 million from several firms including lead investor Keppel Telecommunications & Transportation. The company planned to use the capital to continue developing wireless Bluetooth technologies.

### Card production

**Sun Microsystems** shipped more than 20 million Java Card technology-based Smart Cards in 1999 and anticipated strong growth for the year 2000.

**Bull** announced plans to open a new Smart Card manufacturing facility on a four-acre site at Fareham, in the south of England. An Annual production capacity as from 2001 was put at 30 million micro-processor cards

**Schlumberger** opened a Smart Card plant in Pinhais, Curitiba, Brazil. The manufacturing plant resulted from an initial investment of US \$5 million and was installed in the existing Cardtech facility in which Schlumberger purchased an 80% equity stake in 1999. The plant produces both memory and micro-processor cards.

A contactless Smart Card facility is to be set up in Guangdong (China) by **New Concept Technology**, a joint venture between SuperCom Asia Pacific (51%), a subsidiary of Israeli-based high tech company SuperCom, and Shenzhen Mingwah Aohan High Technology Co. (49%), the second largest Smart Card manufacturer in China. Initial investment in the new company is US \$4 million with plans for a production capacity of at least 20 million cards per year.

**Oberthur Card Systems** said it was doubling production at its Rancho Dominguez headquarters in the US to 200,000 cards per day with an investment of around \$5 million in new equipment. Half of the 200,000 capacity will be dedicated to memory cards such as prepaid phone cards and half to microprocessor cards such as GSM cards.

A new card personalisation facility was opened by **Schlumberger** at its manufacturing plant in Felixstowe, UK.

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## Chips

**Hitachi** shipped its 100 millionth silicon chip in Europe for its customers manufacturing micro-processor Smart Cards.

**Infineon's** SLE66CX320P chip card controller with 32K bytes EEPROM, 64K bytes ROM and 3K bytes RAM, was certified to level E4 in the ITSEC (Information Technology Security Evaluation Criteria) testing scheme.

The company also announced the shipment of its 100 millionth GSM baseband chipset confirming **Infineon's** position as a leading supplier of standard chip solutions for GSM cellular phones.

**Motorola** shipped its M-Smart Jupiter MJ1000C Smart Card - the first to provide a 32-bit Reduced Instruction Set Computing (RISC) microprocessor and the first to provide a hardware-based Secure Memory Management Unit (SMU) for securely separating multi-applications.

**OnTrackInnovations** (OTI) announced the Combi-Module - a Smart Card module containing both contact pads and contactless antenna.

**Hitachi** launched its AE-Series (Advanced Engine) of Smart Card chips designed for use in high-end GSM and financial applications. The first chip released was the AE460 with 64K bytes of memory and a 16 bit CPU to enable multi-applications.

**Atmel Corporation** announced plans to reopen the former Siemens microchip plant at Wallsend, North Tyneside, England, in a deal partly financed with a UK Government grant of £27.8 million. The plant closed two years ago with the loss of 1,200 jobs due to a slump in the semiconductor market.

**Atmel** also released the T89SC256C microcontroller with 256K bytes reprogrammable non-volatile memory - the largest embedded flash in secure microcontrollers.

**Philips Semiconductors** developed a second generation of its Smart Card microcontroller SmartXA to power future developments in mobile communications and secure network access. The new 16-bit architecture supports multiple applications and public key cryptography. Smart XA has enhanced memory up to 64K bytes EEPROM, 128K bytes ROM and 5K bytes RAM.

**Infineon Technologies** released the SLF9000N and SLF9611 as a complete chip system for contactless chip card applications for public transport, security access and secure RF identification cards.

**STMicroelectronics** unveiled two microcontrollers - the ST19XG34 with 70K bytes of ROM, 2K bytes of RAM and 34K bytes of EEPROM designed primarily for the mobile market; and the ST19XL34, with 94K bytes of ROM, 4K bytes of RAM, 34K bytes of EEPROM aimed at access control, identity and secure transaction markets.

## Orders

**ORGA** won a £2 million- plus contract to supply up to 8 million Smart Cards to Boots the Chemists and was designated the sole supplier of the Boots Advantage cards for a minimum of three years. Some 12 million Advantage cards have already been issued.

**Electroglas**, a supplier of process management tools for the semiconductor industry, 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. Atmel will use the machines for testing flash memories and for the testing of very thin die for Smart Cards and other applications.

## Chip card roll-outs

MasterCard International began to migrate its entire card base in **Brazil** from magnetic stripe to chip technology. The Brazilian banks are introducing MasterCard-branded Smart Cards using the MasterCard M/Chip credit/debit application based on the EMV standard.

**In Italy**, the banks are planning to launch a nationwide Smart Card payment system. Gemplus has been chosen by the Associazione Progetto Microcircuito, an initiative promoted by ABI - Associazione Bancaria Italiana - to be one of the official partners in the Smart Card project. The scheme involves updating every payment card in the Italian banking system, as well as all terminals and communications software, to comply with EMV (Europay/Master Card/Visa) specifications. Gemplus will develop and supply Smart Card technology for which Progetto Microcircuito specified the use of 8K byte Smart Cards.

## Electronic Purses

Banco Nacional de Mexico, Bancomer and Banco Internacional, the three largest credit card issuers in Mexico, purchased exclusive franchise rights to develop **Mondex** electronic cash in Mexico.

Mondex International announced that the **Japan Mondex Consortium** (MXJ) and Hitachi were rolling out thousands of MULTOS cards in the new Hitachi Employee ID Card System, including electronic cash, marking the first large-scale deployment of Mondex cards in Japan.

A group of Nigerian banks, representing more than 90% of the country's banking system, began rolling out a common electronic purse, called **ValueCard**, through Smartcard Nigeria. The software was provided by CardBase Technologies, and Gemplus supplied the Smart Cards. Other suppliers included DataCard, VeriFone and Ascom Monetel.

A transaction with a Proton-based Smart Card at the Ikoyi Club in Lagos, launched the first pilot by **Securecard Trust Company** (STC), the Proton licensee for Nigeria. Cards containing an electronic purse, membership details and a security access pass were issued to all 15,000 members of the sports and social club.

**Mondex Ghana**, a new venture company set up by Ghana Commercial Bank and the Agricultural Development Bank, selected Hitachi Europe to help exploit the Mondex electronic cash franchise, and announced plans to introduce Mondex in phases, bringing banking to over 18 million Ghanaians.

## Contactless Smart Cards

Last year saw contactless Smart Card technology employed in major transport projects around the world. **China** forged ahead with the introduction of contactless Smart Card automatic payment for its tollways. Chongqing city began using the one-card multi-application Smart Card payment system developed by Sydney, Australia-based VFJ Technology (VFJ), a subsidiary of Omnitech Holdings. A similar project is underway on the highway system in the Chinese capital, Beijing, while six major tollway projects utilising the VFJ Technology system were already in operation in the Guangxi, Yunan, Guangdong and Shanxi provinces.

Almex, a UK company, won a contract to install an Automatic Fare Collection (AFC) system for three

country bus companies in **Sweden**. The project, using MIFARE contactless Smart Card technology, involves equipping over 1,000 buses and supplying Smartfare card handling units and Smart Cards.

Cubic Transportation Systems installed the first fully integrated contactless Smart Card fare collection system for mass transit in Freiburg, **Germany**.

Motorola, through its Huamin Beijing Smartcard System joint venture, was awarded two contracts in **China** - one for an AFC system from Lanzhou Public Transit Co., in the city of Lanzhou, in Northern China, and using Motorola M-Smart Mercury contactless fare cards; and the other from Changde Public Transit Co for a multi-application Smart Card system in Changde. Plans called for this system to start as an AFC system and then grow into a payment method for public utilities, water, gasoline and taxi services.

The **Paris** public transport authority (RATP) awarded a contract to Ascom Monétel to introduce contactless ticketing equipment at access control gates on all its stations. Around 2,000 gate controllers will be modified in the first half of 2001 to accept existing magnetic stripe tickets as well as the latest contactless Smart Cards.

Ascom also won a contract to supply a new ticketing system for the bus fleet in the French city of **Metz**, including 25,000 GTM Light contactless Smart Cards designed specifically for public transport.

Schlumberger was selected to implement an upgradeable contactless Smart Card ticketing solution in the **Paris** region for the SNCF (French Railways) and RATP (Paris Transport) for access to all the networks (bus, metro, suburban trains). The deal includes the staggered supply of cards. The first passengers to use the new card by the end of 2001 will be the 170,000 holders of the "Carte Intégrale" which is the annual pass for travel on the Ile de France network.

Wilson Parking and Creative Star entered into an agreement to accept **Hong Kong's** Octopus transit Smart Card to pay for parking at about 200 car parks. Total investment in the programme is \$60 million. The car park access control equipment is being manufactured by SkiData of Austria for distribution in Hong Kong through SkiData Parking Systems.

Philips Semiconductors' MIFARE PRO dual interface ICs are being used in a major multi-application Smart Card project in Pusan, **Korea**. The Digital Pusan Card supports both contact and contactless applications. The card's contactless interface can be used in transport payment applications including buses, taxis and subway systems, as well as tollgates and car parks within the existing MIFARE-based Hanaro Transportation system. The card can also be used for payment in shops, e-commerce, ticket reservations and a range of municipal services. Developed by Korea Electronic Banking Technology, the Digital Pusan Card was launched in September, 2000 with an initial roll-out of one million dual interface cards.

In the **USA** there are major contactless card projects in the cities of Chicago and Washington. Commuters in Chicago are the first in the US to travel throughout their city and suburbs using an intermodal (train and bus), multi-agency contactless Smart Card with the roll-out of the Chicago Transit Authority's (CTA) scheme developed by Cubic Transportation Systems. The cards are available for use on more than 1,800 buses and at 143 rail stations.

The Washington Metropolitan Area Transit Authority, which, like Chicago, uses the Cubic Go Card, provides access to trains and parking facilities in the Washington, DC area.

In the **UK**, London Transport's Prestige project for a contactless Smart Card ticketing and revenue collection system is scheduled to be introduced in 2002. TranSys - the consortium formed by Cubic Transportation Systems, Electronic Data Systems (EDS), ICL and WS Atkins - was awarded the £1 billion contract. The consortium announced its specification and issued invitations to tender to leading Smart Card manufacturers around the world, installed gates at most of the Underground stations and began to introduce Q-Busters ticket purchasing technology at Underground stations.

### Biometrics

French **Groupe SAGEM** introduced a dual-band GSM phone with an integrated fingerprint reader. Called the SAGEM MC 959 ID GSM terminal, it uses fingerprint recognition to replace the PIN code to customise the phone and prevent fraudulent use if lost or stolen.

**Datastrip** introduced DSVERIFY a handheld

terminal that can handle fingerprint recognition, barcodes, Smart Cards and other portable storage mechanisms to support high security ID schemes.

**Proton World** announced that its electronic purse Smart Cards can now be equipped with **Keyware Technologies'** layered biometric verification, enabling users to store bio prints such as fingerprints, face, voice etc on their cards.

**Keyware Technologies**, supported by **Microsoft**, agreed to develop tools to enable biometric authentication on Microsoft's Windows for Smart Cards operating system.

**Keyware Technologies** joined with systems integrator **Interstrat** to embed its biometric technology into Smart Cards that will be used by 15 nightclubs in The Netherlands to identify patrons who have previously created problems in the clubs. Patrons will receive a biometric membership card carrying their face and finger bio prints.

**Veridicom**, a provider of silicon-based fingerprint authentication solutions, and German Smart Card manufacturer **Giesecke & Devrient**, partnered to create secure Smart Card products using Veridicom's Match-on-Card fingerprint technology to unlock the card and provide access to an enrolled user. Veridicom signed a similar agreement with French Smart Card manufacturer **Gemplus**.

**iD2 Technologies**, a developer of PKI (Public Key Infrastructure) solutions to identify users across the Internet, partnered with **Precise Biometrics** and **Miotec** to offer biometric Smart Cards. Precise Biometrics is contributing its fingerprint matching systems and integrated Smart Card and fingerprint reader, Miotec is using its advanced Smart Card operating system and card while iD2 is providing end users with software to support Smart Cards and encryption and create digital signatures.

Computer keyboard specialist, **Cherry Electrical Products**, and **Informer Systems Limited (ISL)**, jointly developed a Smart biometric keyboard for applications such as workstation logon, network logon and remote access. The keyboard, manufactured by Cherry, features a built-in Smart Card reader and a fingerprint scanner using ISL's SentiNET fingerprint authentication software program.

## Standards

SPYRUS' Rosetta Smart Card became the first to receive Federal Information Processing Standard (FIPS) **Pub 140-1 Level 2 certification** from the National Institute of Standards and Technology. The Rosetta Smart Card uses the SLE66CX160S 16K bytes EEPROM chip card cryptocontroller from Infineon Technologies.

SafeNet announced its support for the new **Rijndael algorithm**, selected by the National Institute of Standards and Technology (NIST), to replace the ageing DES encryption formula (Data Encryption Standard). The Rijndael algorithm, which emerged the winner of a three-year, worldwide competition to develop a new encryption standard will be proposed formally for incorporation into the new Draft Federal Information Processing Standard (FIPS) and is expected to become an official government standard in the spring of 2001.

## Projects

Probably the most important contracts during the year were awarded by the US General Service Administration (GSA) for a government-wide Smart Access Common ID project valued at over \$1.5 billion over ten years. Five prime contractors were appointed - KPMC Consulting; PRC, Inc.; Electronic Data Systems; 3-G International; and Logicon. (Most of the assets of the Government Services Division of 3GI were purchased by MAXIMUS, and the contract was later modified to name MAXIMUS as the successor.) The companies will provide microchip-equipped cards capable of uses such as personal identification, building access, computer and network access, and digital signatures. Already many Smart Card and biometric companies around the world are involved in the contracts.

The City of Southampton in the south of England was selected to pilot the **SmartCities Smart Card** co-funded by the European Commission and nine partners - Schlumberger, Southampton City Council, Europay International, Motorola, University of Southampton, IT Innovation, Technolution, CRID (The Centre for Research on Computers and Law) at the University of Namur, Belgium; the City of Göteborg, Sweden. The project, which will run until November 2002, will use Smart Cards for transportation, entertainment, education and other services, and provide a model for other European cities.

Jordan began rolling-out a Smart Card-based **medical records project** that automates patients' medical and insurance information. The scheme, by the National Health Insurance Administration Company of Jordan, launched in the capital of Amman with M.O.S.T Smart Cards from CardLogix, PC Pay readers from Innovonics, and eClaim software from IdealSoft.

American Express Company launched **BlueLoot**, a new rewards program exclusively for Blue cardholders - the Smart Card credit card introduced by Amex in September, 1999. BlueLoot is a free program, and cardholders earn one point for every dollar they charge on Blue - on-line and off. BlueLoot is organised online at [www.americanexpress.com/igotblue](http://www.americanexpress.com/igotblue) where customers can register for the program, view point balances, browse the rewards catalogue and redeem rewards. Blue's Smart Card chip enables secure shopping on-line when used with a Smart Card reader and the American Express Online Wallet.

NBS Technologies' Portica Smart Card-based solution for the **electronic health clearance of medical staff** within UK hospitals is operating in a number of hospitals in the North Thames region of the National Health Service for the health clearance of clinical staff which is required at each new hospital of employment. The cardholder's name and other personal details, including General Medical Council number are held on the card with test and vaccination information for a wide range of conditions including Hepatitis B and C, Rubella, Chicken Pox, Typhoid, Diphtheria and TB, as well as Clothier Clearance (access to children) status.

Smart Cards are being used by US soldiers with the **NATO peacekeeping mission** in Bosnia-Herzegovina for personal purchases from a haircut to a burger. ICL's SmartCity multi-application card is being used to help staff and visitors pay for goods and services. Remote bases have few amenities, but commercial "food courts" operating mostly in tents and post exchanges are available. The system, commissioned by the US Treasury Department, was implemented by ICL's e-Business services company and eliminates the need for personnel to carry cash and cuts the risk of theft. Vendors have been issued with small, portable point of sale terminals that use battery back-up power.

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PCU Italia, Finsiel and the Italian Healthcare Ministry are co-operating on an **international healthcare project** involving Italy, Germany, France and Canada. The cards include 32K byte EEPROM Java Smart Cards and cryptocards. They will store personal data, emergency data and other significant health data and, in the future, will be used for storing prescriptions. The Italian Healthcare Ministry forecasts a national roll-out involving more than 50 million cards and 200,000 terminals by 2003.

UK-based easi Solutions, a supplier of Smart Card-driven **guest room technology for hotels**, announced an exclusive £400 million contract with Acer UK, the world's third largest PC manufacturer. The companies are partnering to develop a range of equipment for use with the e@si System which offers hotel guests a complete PC-based information, communications and entertainment system incorporating e-mail, the Internet and Microsoft Office (Small Business Edition).

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** this month (January). Banksys, CEPSCO Espanola, Europay International, Interpay Nederland, Proton World and Visa International are involved in the pilot. 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. Cardholders will be able to load their cards and to make purchases both in their "home" country and in the two "foreign" countries.

Gemplus, Sun Microsystems and Visa International announced a **three dollar Open Platform multi-application Smart Card** called GemXpresso Lite, which is compliant with Open Platform 2.0 and Java Card 2.1 specifications, for Visa member banks. Gemplus said it had 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.

Boots Advantage cardholders can now register with the **NHS Organ Donor** scheme in the first partnership of its kind between Boots the Chemist and the UK Department of Health. It is hoped that an extra million people will register as donors in the coming year through the Advantage Card, a Smart

Card retail loyalty scheme. Details of those who register will be automatically forwarded onto the NHS Organ Donor Register.

France Telecom Mobiles (FTM) commercially introduced the world's first high-volume debit / credit mobile commerce service called Paiment "CB" sur mobile. The service combined Oberthur Card Systems' SIMphonIC card, Carte Bancaire cards and dual slot mobile phones to enable users to purchase and pay for goods and services, including their France Telecom, electricity and gas accounts.

The Waldorf Astoria, one of the world's top hotels, chose TESA Entry Systems' HT28 Smart Card electronic locking system to secure the hotel's 1,750 rooms.

UK company easi Solutions began equipping Hilton hotel rooms with unique desks incorporating the latest computer technology to assist business travellers send and receive e-mails, shop, listen to music and surf the net. A Smart Card is used for access to the desk which contains a PC, Smart Card reader, CD and floppy drive, printer and scanner all in the comfort of the hotel room.

Other interesting projects included a world first with Globalstar do Brasil installing mobile satellite telephones on Itapemirim's 43 inter-city buses in Brazil enabling passengers to make calls using pre-paid Smart Cards while travelling.

### People awards

Finally, during the year there were many awards for products and technical innovation, but the industry also honoured personal achievements.

**Michel Ugon**, Vice President Advanced Research and Security, Bull Smart Cards and Terminals, was honoured with The ORGA Advanced Card Hall of Fame award.

**Dr Peter Keucher**, of Infineon Technologies and **Horia A Grecu**, of Motorola, won the 2000 SEMI (Semiconductor Equipment and Materials International) Award for Europe for their efforts in the introduction of next generation semiconductor manufacturing technology. General Manager and Deputy General Manager respectively of Semiconductor 300, the Infineon and Motorola joint venture, they led the first 300mm wafer manufacturing facility.

## Stay in Bed Longer

South Africa's PEP Bank and partner Metrorail, the Cape Province regional railway company, are marketing their new Proton-based Visa Cash Smart Card scheme with the slogan "Avoid the queues: Stay in bed longer" illustrated with a couple lying in a bed on one of the station platforms during the morning rush hour.

Ten thousand Proton-based cards, branded Visa Cash, are being issued by PEP Bank (Proton World Licensee in South Africa) and Metrorail. In addition, 15,000 cards are being issued to individuals without bank accounts.

The cards contain the Proton electronic purse which is used for buying railway tickets at Cape Town Central and Mitchell's Plain stations, and for making purchases in shops near the central station. They can be loaded against cash at kiosks in the stations, and PEP Bank account holders can load the cards at PEP Bank ATMs.

The scheme uses a Microsoft Windows/NT host server, 10 unattended load kiosks from Xafax, 20 ticket purchasing machines from Antenor and 35 retail point-of-sale terminals from Banksys. The pilot phase will run for 12 months and then further expansion will be considered.

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## New Smart Card Platform

Gemplus and NTT (Nippon Telegraph and Telephone Corporation) are trialing a 1 Mbyte Flash memory card and a new multi-application Smart Card management platform called NiNa (Nomadic Information sharing Network Architecture) in Yokosuka City, Japan. The idea is to provide a single card, called ELWISE, that will allow users to download any applications via the Internet onto their card such as e-cash, travel tickets, healthcare information and personal identification data.

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## Smart Vending Agreement

Debitek has partnered with Standard Change-Makers to integrate Debitek's Smart Card technology with their currency and coin change machines. Standard Change-Makers sells their products to the laundromat store, vending, amusement and transit markets throughout North America.

Larry Hauser, Vice President and General Manager of Debitek, said: "Not only do we replace labor-intensive cash payment, but the Smart Card security we use eliminates employee fraud."

### Website

- 🌐 www.standardchange.com
- 🌐 www.debitek.com

## SecureLogin with Fingerprints

ProtoCom Development Systems has announced that its SecureLogin software now includes support for Biometric Access Corporation's SecureTouch 2000 advanced identity verification products.

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## Incard's New Personalisation Area

Incard the Italian Smart Card manufacturer has opened a new personalisation area dedicated to the GSM product. The plant based in Caserta, Southern Italy will now see the production of 40 million microprocessor cards per year.

Incard has supplied this month's **Collectors Corner** Card.

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## Cholesterol Monitor Promotion

Lifestream Technologies will introduce its new Smart Card-enabled home cholesterol testing device through The Sharper Image catalog, stores, and Web site starting this month. The cholesterol monitor includes a Microsoft 64K Smart Card that can store up to 200 test results.

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## 3G Wireless Modems

Nortel Networks signed agreements with Sierra Wireless and Xircom under which both will independently develop third generation (3G) wireless modems based on the UMTS (Universal Mobile Telecommunications Service) standard to enable "anytime, anywhere" access to Internet content through digital devices of all kinds.

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## Nokia Bluetooth Connectivity Pack

Nokia has unveiled its first Bluetooth solution for wireless connectivity between a mobile phone and Personal Computer making it possible to use the Nokia 6210 as a GSM modem to connect to a laptop within a range of 10 metres and download e-mails, browse the Internet and send faxes.

### Contact

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## New Ericsson WAP Phone

Ericsson announced its new WAP phone A2628 at the TelecomAsia fair in Hong Kong.

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## Contracts in Jamaica and Pakistan

Ericsson was selected by Mossel (Jamaica) to deliver and install a nationwide GSM 900 network in a contract valued at US \$50 million, and Motorola signed a US \$26 million network expansion contract with Pakistan Mobile Communication (Mobilink) to increase network capacity from 150,000 subscribers to 300,000.

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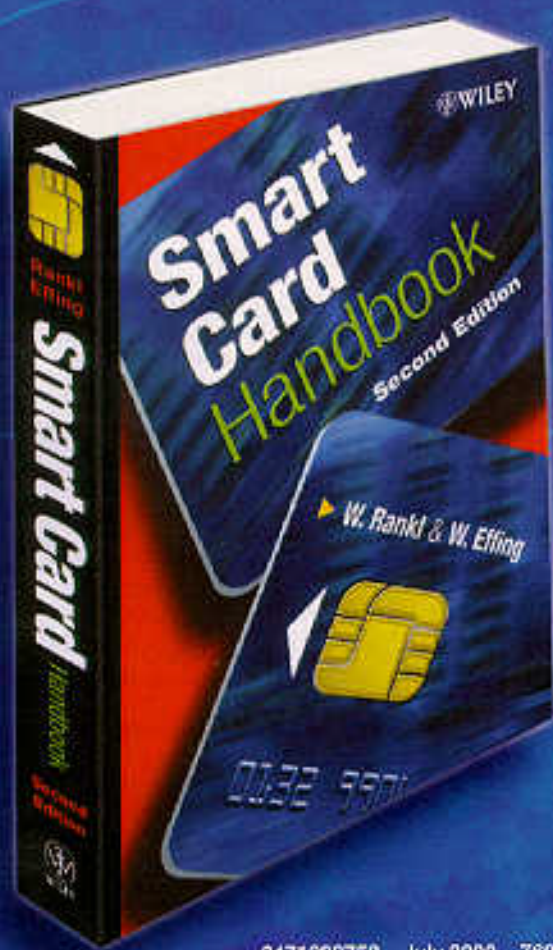
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