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# Smart Card & Identity News

### Smart Cards, Identity Managment, SIM, Biometrics, NFC & RFID

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## This Month's Lead Story

# Future UK Prime Minister Highlights the Importance of 'Contactless'

Gordon Brown, the sucessor to Tony Blair as UK Prime Minsiter, has said, that Contactless technology will revolutionise payment in the UK retail sector following his visit to payment solutions provider, Ingenico.

He was welcomed on this visit by Amedeo d'Angelo, chief executive officer of Ingenico, and Nick Parsons, managing director of Ingenico UK in Dalgety Bay.

Gordon Brown said that the market would be worth £30 billion in the UK when Contactless begins its national roll out later this year with the backing of all the UK major banks. It is estimated that the global market for Contactless is £364 billion and is set to deliver a wide range of benefits to UK consumers. Traditionally, consumers have used cash for low value purchases but lifestyles and behaviours are changing and with the convenience offered by debit and credit cards, we are becoming less and less a cash-carrying society.

Using a Contactless card, consumers will be able to pay for their purchases by simply 'moving' their card in front of the reader. Designed for low value purchases the transaction threshold for Contactless is likely to be set at £10. Purchases above £10 will require a Chip & PIN transaction. The introduction of Contactless technology is seen as the ultimate aid to queue-busting as a result of speedy transaction times. Barclaycard Business, one of Europe's largest acquirers and processors of plastic card transactions and Ingenico, are participating in the first phase of a national roll out of Contactless technology in the UK, which will start with a London launch in select areas involving a mix of retailers and selected cardholders.

## Our Comments

It's been a month of phones, a few of my friends have all upgraded their handsets over the last couple of weeks and it has been interesting to examine the criteria of selection. Just to put you out of your misery at the start none of them had NFC on the list of desirable prop- erties. I think everybody assumes the phone can han- dle voice calls so that wasn't even mentioned either.

A common thread was the good old text messaging, clearly important to everybody and in some cases with the option of handling pictures. And then the first interesting point, nobody actually cared about the role of the SIM card only where is the data stored, contacts etc and how do you get it from the old phone to the new. The idea that the contacts could be on the SIM and moved from phone to phone wasn't a big selling point, or even the idea of doing a SIM transfer with all the little gizmos avail- able in the market place. Fashion was very high on the list. Slim and sexy seemed to be a totally unanimous requirement regardless of sex and close behind was the need for some suitable ring tone.

The thing that struck me about all this is that the network operators have lost their way with the SIM card, it's the only bit of the phone owned by the operator but it has no significance in the eye of the consumer. They all know its there but it is seen as the bit that makes the voice calls work. Given the capability of the modern SIM card both in functionality and memory size shouldn't it be doing more? Isn't there a market for an all singing and dancing SIM card that makes the user experience more excit- ing or am I just missing something?

*Patsy*

## Contents

**Managing the personalisation process** - One of the most impressive progresses in the passport market is the availability of complete personalisation management systems that can centrally manage, control and monitor all elements and processes involved in a personalisation workflow. These products are becoming the core of every passport project and are defining its overall reliability, security and efficiency. The personalisation management system houses the production database, receives batches of passport personalisation jobs from the government and distributes those batches to all the personalisation systems available for production, be it in a single personalisation facility or in various remote locations. For the communication to the government site and the personalisation equipment, the system needs to use encrypted links in order to protect personal data against eavesdropping. The hardware and software of the system is authenticated after each start-up including mandatory operator log-in. All personalisation systems connected to the system must authenticate them before receiving personalisation data from the server to ascertain that only proper machines are used in the proper environment.

In the case of an electronic passport, the personalisation management system will receive the access keys from the key management system and will pass it on to the equipment for personalisation of the chip. Furthermore the personalisation management system oversees: *1)* Tracking the personalisation of all passports, *2)* Allocating of personalisation jobs to the equipment and controlling of production status of each document, *3)* Monitoring status/performance of all equipment and reallocating jobs to other machines in case of a machine breakdown. All information about personalisation jobs received and all passports produced will be stored in the proper database. The software allows the supervisor to run daily, weekly or monthly production reports by machine, operator, and passport number or production status, thus effectively monitoring the production environment and proposing corrective measures.

Security concerns are well addressed by the personalisation management solution, taking care of a number of security related functions such as: *1)* Machine start-up, logging and software sanity check, *2)* Access control system based on user log-in via PIN, Smart Card and PIN or biometrics, *3)* Communication with the Personalisation Management System via encrypted lines, *4)* Key handling and personalisation of the RFID-Chip using customer specific encryption formats and protocols, *5)* Retrieving passport personalisation data, logging and feedback of all production data of each individual passport to the Personalisation Management System.

From the point of view of a supplier in the passport personalisation sector this means that the solutions offered should be based on latest technological achievements and be easily customisable or in best case totally modular. They need well defined interfaces to guarantee optimal integration into existing infrastructures and provide high scalability, perfect reliability and a highly user-friendly design. A company has to offer more than just a convincing product portfolio but needs deep understanding of all processes related and adjoined to its core competence as well as long-time experience in realization of passport systems.

# New Uses of ePassports: Automated Border Crossing and Beyond

**By L-1 Identity Solutions**

The electronic cards industry is maturing quickly, most recently with ePassports blazing new trails and methods for identifying people around the world. In a few short years we have moved from static "dumb" passports to smart ePassports which hold a wealth of identity information in a remarkably small chip on the card. The chip in the passport, typically housed on the printer page, is the enabling technology which leads us to call these credentials "smart". The chip, which conforms to international standards, simultaneously, turns the passport into an electronic read/write record most commonly containing biographical data, digitized face images and fingerprints, and the key to unlocking this identity information. The combination of ePassports, biometric solutions and document reading and authentication technologies enables basic access control (BAC) - the process of providing a secure means to read the data on the chip through decryption of the chip, reading the data via the machine readable zone (MRZ), and producing a result to allow or deny access - to work effectively.
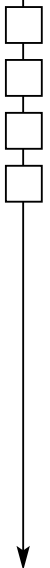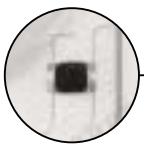
Since conception, ePassports were designed to enable higher security in international travel and the promise is being fulfilled. The introduction of ePassports has ushered in a new era of security and convenience for both organisations and card holders as the capabilities of this new passport allow travelers to own their identity data and organisations to use the data for automated border crossing, immigration and secure identification. Now we are just beginning to realise the added benefits and potential of ePassports, from superior identity theft and fraud protection and more efficient immigration through unattended crossing points, to new concepts such as elections quality assurance, worker permit vetting, secure banking, informed healthcare, and convenient e-commerce.

As the world progresses toward this new, smart form of identification, today there is a mix of traditional passports and ePassports on the market, therefore internationally the former means of identity document authentication coexist with the new cutting-edge methods of identity document authentication. Both traditional passports and the new ePassports may be authenticated using automated document authentication technologies which are flexible in terms of reading contact and contactless, or "dumb" and "smart" forms of identification. While estimates indicate that traditional passports will be phased out over the course of ten years, there are two unmistakable truths: *1)* the move toward smart ePassports is inevitable and *2)* the momentum on transitioning to smart ePassports is growing worldwide.

Recently, Portugal's Faro airport launched a groundbreaking pilot program designed to test the effectiveness and efficiency of ePassports in unattended border crossing. Imagine a secure border crossing process that quickly processes your passport, checking the validity of your identification and your identity information to determine your eligibility to enter the country, while simultaneously expediting the process, eliminating the need for human intervention and allowing you to hold the keys to your identity.

This is the solution available today in Portugal. In seconds, your passport and identity information, including biometrics such as face and fingerprints, are scanned against watch lists, authenticated against passport source data, and cross checked to match the printed document data against the data on the chip. The early success of the pilot in Portugal is already expected to lead to a full deployment of automated document authentication and unattended border crossing kiosks throughout all of Portugal's international airports and maritime ports. In 2004, Pakistan also launched an ePassport in combination with the country's national ID card. The integrated solution was designed to heighten national security, most notably through mitigating terrorism and ethnic violence, and prevent problems related to identity theft and the fraudulent use of identity documents by leveraging the instant access to biographical identity data, face biometrics and fingerprint biometrics. This solution has been highly successful in accomplishing its goals and furthermore, connecting Pakistan's citizens to the country's public and private services from government programs and law enforcement to banking, education and travel.

Today the United States, twenty-seven European Union countries and several Asian Pacific countries such as Japan, Malaysia, and Thailand have begun issuing their ePassports, and countries like Portugal and Pakistan are leading the charge on how to take advantage of this significant investment, maximising the application of ePassports and meeting the modern demands for the use and security of individual's identities. Successful ePassport cases are leading to more innovative thinking around the use of passports.

Just as national ID cards and driver's licenses have been frequently repurposed and used for general identification in banking, healthcare, and commerce, the ePassport has the same potential. The capacity of a chip on a passport is vast, and exceeds the thoroughness, convenience and security of any other form of identification. Envision the scenario in which your passport carries critical healthcare data, personal banking information, credit access, voter rights, worker eligibility, and a range of other government and private services. Each of these systems could benefit from the security, efficiency and convenience of a universally accepted and advanced form of identification such as the ePassport.

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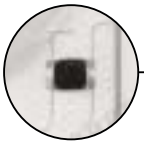
Healthcare is perhaps the most personally compelling application for the extension of the ePassport. As healthcare worldwide has become more complex and we have become a more mobile society, the healthcare system has been challenged to find a solution for maintaining electronic healthcare records for individuals and providing instant access to patient data. Further, as technology has made access to worldwide resources and opportunities more readily available than any other time in history, international travel is more common-place, and therefore the need for mobile electronic healthcare information is all the more prudent.



The ePassport is a fitting option for identifying individuals and accessing their vital healthcare information that may be stored elsewhere. From a macro-economic view, the influence of banking and commerce on our global welfare provides incentive to extend the ePassport in this direction. Again our new found, ultra-mobility and need for protection of our identity drives the case for inclusion of banking and credit line access using our ePassports as electronic forms of identity verified with embedded biometrics.

As with other applications, the finance industry bears a heavy burden for verifying identities in order to prevent identity theft and identity fraud which often led to more destructive crimes. Once again, the consumer is an integral part of the solution as the individuals maintain ownership of their identity document and data. When we further consider the advanced uses of mobile phones, which are quickly becoming mini-computers helping to organise our lives, conduct transactions, and link into our mobile society, the chip on the ePassport would complete the solution for full identity verification and secure commerce in combination with other wireless communications technologies like 3G wireless, Bluetooth and WIFI/WIMAX.

Moving into the political world, we find additional potential for innovative applications of the ePassport. Worldwide, the quality of elections and voter verification process has come into question in several high profile cases. The fact is that paper based electoral and voter authentication systems are quickly becoming outdated due to the static nature of these conventional processes and the significant loop holes that exist in these systems. Appending voter rights information to ePassports would enable many countries to efficiently authenticate voters, build quality assurance into the election systems, and process voting results more quickly. Passports, by purpose and design, are tied to government services; therefore the extension of ePassports into other government services is not a stretch. Take for instance the systems for providing foreign worker permits which vary from country to country. It is generally accepted that most of these systems would benefit enormously from having instant access to worker eligibility information on a trusted and universally accepted form of identification, such as the ePassport. Again, ePassports deliver unparallel processing times, reliability, and convenience, particularly for on-site verification of workers.

Each of these ePassport applications has the potential to help further develop and evolve the ePassport into a broadly used form of identification providing exceptional security, efficiency and convenience to both organisations and individuals. However as we advance toward these uncharted territories we must also step back and consider some of the broader issues that will enable the successful evolution of the ePassport. For example, we must agree upon the standards for ePassports.

Most all countries follow the recommendations of ICAO and adhere to the ISO standards for the electronic chips and images, however there is still wide variation among countries. While certainly there will always be differences among the countries' ePassport solutions, we will be wise to stay focused on solutions that enable all ePassport holders to access the advantages provided through this new technology, including international travel, security and added conveniences in public and private services. Migrating from our established systems to take advantage of the capabilities of the ePassport would require collaboration from every sector and country.

As we learned through the early implementations of ePassports, these solutions take time to implement, especially when the standards are being set almost simultaneously with the solutions. However when considering the tremendous opportunities and benefits presented by the ePassport, the case for collaboration is compelling.

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