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The lessons of European and Middle Eastern implementations of e-ID

An April 2010 update

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Gemalto provides end-to-end digital security solutions, from the development of software applications through design and production of secure personal devices such as smart cards, SIMs, e-passports & e-IDs, and tokens to the deployment of managed services for its customers.
More than a billion people worldwide use the company's products and services.

In the public sector, Gemalto is contributing to over 50 national programs**.**

Gemalto is taking an active part in 14 national e-ID initiatives and 9 major eHealthcare programs around the world.

In 2005, Gemalto began producing Sweden's, Norway's and Denmark's e-Passports. As of today, Gemalto is contributing to 20 national e-passport programs including in particular Côte d'Ivoire, Estonia, France, India (diplomatic), Italy, Portugal, Qatar, Singapore, Slovenia and USA.

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Eric Billiaert, Gemalto

An April 2010 update

Introduction

Smart cards – in the form of credit cards and SIM cards - are the most common form of IT processing power on the planet. In the hands of citizens, credit cards mediate daily transactions worth trillions of dollars while SIM cards facilitate millions of conversations which bind together our social and economic worlds. In the last two decades these two tools, more than any other technology, have quietly taken us all into a virtual world held together by information stored on electronic media.

In developed countries, the ubiquitous credit/debit card has finally separated economic transactions from any physical manifestation such as handing over cash or cheques, while the mobile phone with its SIM card has separated communication from the constraints of the fixed infrastructure of telephone lines.

In the public sector where service has often been free at the point of use because it is an entitlement of citizenship qualified by circumstances, payment has also been “virtual” because it has been made through the tax system. It was enough to say that you were a citizen – indeed to be present in the national territory - to qualify for many benefits provided by the Welfare State.

As proofs of citizenship and entitlement are increasingly necessary, it makes sense for them to be provided in a manner which has high integrity and trustworthiness; both characteristics were necessary for smart credit cards and SIMs to have made the contribution that they have already made. If these technologies had not swiftly demonstrated, and acquired a reputation for, reliability and integrity, the networks built around them could not have developed.

In this context it is also important to note that citizen expectations of both convenience and security have been rising apace, and there is pressure for public services to be delivered in as modern a manner as those of the private sector.

The perceived quality and security of a national e-ID are also strong messages to citizens and a tangible element of trust. This illustration shows the polycarbonate-based credit-card size Swedish e-ID with its numerous visible security features.

Fortunately, therefore, the smart card and chip technology which has transformed our economic and social transactions is available to do the same in the sphere of public service delivery. Moreover, well-tested capabilities of the smart card can add extra facilities to the public service domain to provide benefits to citizens.

This paper examines the ways in which smart cards have already, and could, in future, deliver the outcomes that governments across the world are seeking as they strive to improve public services. The available technology offers the potential for a virtuous circle of increasing take-up supporting increasing functionality and increasing attractiveness of e-ID to the citizen.

The challenge to all governments will be to achieve this virtuous circle and avoid the risk of issuing e-ID with limited functionality and limited appeal.

Gemalto's credentials to comment

Gemalto's credentials to discuss these issues are based on the fact that we have delivered the core technical solution to 14 out of 25 national electronic ID implementations currently operating around the world. We believe that this gives us an excellent insight into the technology, its applications and the social context of its use.

The European context

In the European Union, the shared aspiration to improve public services and the commitment made in the “i2010” initiative to create a “Single European Information Space” on the lines of the Single European Market have driven the program to create interoperable electronic ID.

This should facilitate delivery of all kinds of public service across the continent and enable European citizens to access services wherever they may be in Europe. At the Manchester Ministerial Conference in 2005, there was unanimous approval of the plan to create the universal e-ID program and this endorsement covers programs developing in most member states.

In parallel, the European Citizen Card (ECC) standard for physical and electronic performance of cards has been under development within the EU since 2004 – the first ECC-compliant cards having been delivered, by Gemalto, in France.

The European Citizen Card (ECC) standards have already been issued. The illustration shows the very first ECC product issued in August 2008 by Gemalto.

In the majority of European states the requirement to hold an identity card has been a political “given” for at least a century and for these states it has seemed natural to add new functionality to an existing token.

Both because the old cardboard IDs could be easily forged and because an e-ID manifestly adds extra functionality and convenience there has not been much resistance to take-up of the new cards in the countries where they have been implemented. The private sector has long accepted the smart credit card as the token of participation in the economic world and the same is now happening in the world of public service.

Content of this white paper

The purpose of this paper is to look at experience in European and non-European countries to draw out messages which may help new national e-ID projects to accelerate– at least where these issues concern practical questions rather than profound philosophical objections in which it is probably not realistic to expect any real change.

The key findings in this paper are:

- Many implementations of e-ID have been successfully achieved in European countries, from North to South and East to West, and elsewhere in the world, and have robustly delivered citizen benefits, demonstrating the potential of e-ID systems.

- The capability of smart cards to deliver not only basic but also innovative, sophisticated and robust facilities has been demonstrated.

- The security of smart cards used for e-ID and, to a lesser degree of sophistication, of SIMs – in their design, production and use, is of the highest priority to the suppliers and justifies confidence that the technology is more than adequate to the task.

- The applications and data in the smart card have the capability to be updated remotely after its issuance to citizens and is therefore a flexible tool for delivering innovative benefits to citizens.

- The issuance process needs to be undertaken at a pace which creates the positive network effects that will cumulatively increase the value and benefit of the token. There is an opportunity to create a virtuous upward spiral of capabilities, benefits and take-up which will enhance the value-for-money of public services. However, there is a corresponding risk of a vicious downward spiral in which an ID card is seen as a useless imposition which does not have the capability to deliver any useful function.

The move toward e-ID has therefore brought into the public sector domain the same abstraction and the same opportunities that the credit card and SIM have brought into economic and communication transactions. The financial world of “plastic money” has created new businesses and a new concept of credentials and economic entitlement – this world is now being extended to the public sector with quite different views of entitlement.

The challenge is to seize the upside opportunities and to make e-ID as fundamental to delivery of public services as are credit and SIM cards to commerce and communications.

How far have the most advanced states gone?

Many states have begun their e-Government program by designing, producing or rolling out secure electronic identity cards, generally referred to as “e-ID cards” or simply “e-ID’s”. The most common applications for these smart cards are in travel documents, electronic ID’s, electronic signatures, municipal cards, key cards used to access secure areas or business infrastructures, social security cards, etc.

Too often, however, the process has been approached from a technological viewpoint. Many advanced countries are now attempting to demonstrate that, beyond the security benefits for both states and individuals, e-ID can provide citizens and businesses with real services and benefits, without infringing upon new rules on data protection and civil liberties.

Another challenge, particularly at this time of economic crisis, is to demonstrate that the e-Gov 2.0 approach and the associated use of smart cards yield an excellent return on investment, if not financially then at least politically. Many states and local authorities are attracted by the versatility of these electronic ID documents and encourage their use in multiple everyday activities (transport, access to public buildings, and payment for public services).

The potential for these cards is highly promising, but nevertheless remains unevenly structured, and its level of maturity varies from country to country. Belgium, for instance, is already on its second generation of cards. Asia, the Middle East and Latin America are making great strides towards universal use of e-ID; France will soon be debating bills to authorize the issuance of such documents, while the United Kingdom, having introduced a bill that was considered groundbreaking for a country that has no history of identity cards, is still hesitating. Germany has officially announced that their national e-ID program will start on November 1, 2010 (German Ministry of Interior press release of 17 December 2009).

In the ten years that these programs have been in operation, a number of general trends have emerged in many countries, and the different ways of achieving public acceptance and success are becoming clearer.

“Police on web” is one of the 600 eServices with strong authentication available in Belgium. Your bike got stolen? Graffiti on your wall? Leaving home this summer? Don’t move, use the web. 90% of the population has an e-ID card in the country early 2009. Belgian citizens can now use their e-ID cards to report crimes to the federal police through an electronic terminal connected to the Internet. The scheme is part of the Belgian government’s plan to simplify the country’s administrative processes.

The lesson of economic history has been that reduction of transaction costs (both in their absolute level and in the imputed cost of risk where there is not complete certainty as to the individuals making a transaction) always promotes greater economic activity and a more productive “division of labor”.

e-ID scheme has the potential to transform a wide range of economic transactions outside as well as within the public sector. There is no reason why the government issued proof of ID should not be used to facilitate private sector as well as public transactions and it will be in this way that the greatest benefit will be delivered.

Austrian tax portal (fragment). Here e-identification is possible with the citizen card (Bürgerkarte). In 2009, Austria has in the range of 70% – 80% of all tax returns being done electronically.

9 million e-IDs were in circulation in Austria in 2008 - Austria was ranked first in 2008, 2007 and 2006 in EU reports on maturity of online public services.

Sources: The User Challenge – Benchmarking the supply of online public services — European Commission/Capgemini- September 2007(2006, 2005) – The Vault – November 2009 interview of Pr. Dr. Posch, Austrian Federal Government.

It must be clear, therefore, that the best principle with which to roll out a program of this kind is one that works with the grain of consumer demand and is open to the development of innovative services based on the availability of a high quality identity “utility”. This approach is also consistent with the government’s citizen-centric thinking which has been so important in the transformational government program over the last four years.

The lessons of European and Middle Eastern implementations of e-ID

Lessons from Estonia

"If you have little money, it forces organizations towards collaboration. If you have too much, it's very bad! I think some larger European countries have more time and money to wander around the idea of the information society. We just get on and do it."

Linnar Viik, Professor at the Estonian IT College, and formerly adviser to the Estonian Prime Minister on IT and social issues.

Source: The Gemalto Review, February 2009

E-stonia in numbers

1,340,602 – The population of Estonia (recorded in 2007)

Over 1,000,000 e-ID cards

30,275 Estonians voted online in the 2007 parliamentary election

42 million – the number of times the government's X-Road services were used in 2007

98% of the country now has broadband Internet connectivity

91% of personal computers are linked to the Internet

86% of taxpayers declared their income online in 2007

10% of ID card holders use the digital signature function every day

15% of ID card holders use their card on public transport every day

There are many lessons offered by the experience of launching ID cards in other states. The following paragraphs consider cases from around Europe and the Middle East, where governments have addressed these issues in different ways, but with a common thread that the ***virtuous circle*** effect can be achieved.

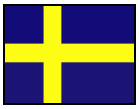
There are many lessons to be learned from European and other countries which have invested in the creation of an ID card infrastructure.

The key questions that we believe need to be considered in assessing the manner in which smart-card ID cards have been introduced are:

- **What useful facilities did the ID card offer at the outset?**
- **How did the government convey a vision of the usefulness of the card, both for government and non-governmental transactions?**
- **How did the government "orchestrate" the approaches taken by third parties and, in particular, financial institutions to encourage acceptance of the card?**
- **How did the government position the card vis-à-vis citizen convenience?**
- **How was market innovation encouraged, without being planned or prescribed, by government?**

The following table addresses these questions, firstly with regard to seven European countries and then with regard to three Middle Eastern countries, from which there are lessons to be learned even though the cultural context is very different from Europe's.

Country	Facilities offered at outset?	Government communication of the value of the token	Orchestration of institutions by government	Positioning vis-à-vis citizen convenience	Encouragement of innovation
Austria	Link to a health service token Enabling standard-based framework allowed cards of different provenance to be integrated into an effective shared infrastructure.	Fitted into a broader commitment to modernize government with a focus on improving citizen services.	Legislation to insist on all services being "e-enabled" by 2008 mobilized effort within government and created a clear signal for the private sector. By providing a framework for acceptable e-ID format, the government has been able to use e-ID in several forms to create greater take-up.	State sponsorship of the addition of e - signatures to bank-issued credit cards in order to widen usability of the card	Extension of facility to legal documents and legislative drafting showed value of the card for the most sensitive applications. Recent encouragement of "M-government" using mobile phone SIMS to add further facilities. Open standards allow several different forms in which the ID token can be offered.
Finland	When launched in 1999 the e-ID included PKI capability and provided a travel document as well as secure banking and insurance service access.	Government promotion of the card as a replacement for the previous cardboard card as a modern tool with extra facilities.	Information Society Advisory Board set up to coordinate and orchestrate efforts across government and private sector. Provision of e-ID to corporate entities enables businesses to maximize use of e-government.	The "benefit club" established to show usability in many domains. Link with private sector and local government to offer coordinated services Provision of e-Signature through mobile phone to simplify take-up of digital signatures.	Exploration of use of e-ID with mobile phones from the earliest days of the Finnish scheme Innovation with phones and private sector involvement The provision of a "Citizen certificate" derived from the population register acts as an authoritative "root identity" which can be incorporated in systems of other parties.

Country	Facilities offered at outset?	Government communication of the value of the token	Orchestration of institutions by government	Positioning vis-à-vis citizen convenience	Encouragement of innovation
Sweden 	In 2004, the framework was set for a standard and secure infrastructure enabling the interoperability of government e-services, including e-IDentification, secure exchanges, and the management of authorizations and access rights. 2005 saw the launch of e-ID : launched as ID, travel document and support for e-identification and e-signature.	Various public commitments to make Sweden an exemplar of good practice, openness: national ID certificates certified by the state but distributed by third parties (banks) used on e-ID or mobile phones.	Early link to banks to support issue of 2.5 million digital certificates. Sweden's approach has been a twin track one in which government issued cards with ICAO compliance are now catching up with an existing banking sector card infrastructure which is acceptable for many public sector interaction.	Coordination of activity with the banks to increase take-up. Cooperation with mobile phone network operators.	Launch of joint international portal (Sweden, Finland, and Denmark) to share initiatives across borders.
Portugal	Very early commitment to a broad vision of an e-enabled society Initial citizen card provided integrated token for ID, health, social security, tax and electoral credentials. e-ID launched in 2007 with a mature and clear vision.	Early commitments to promote e-government as part of wider government modernization program, e-ID new card promoted as modern, "5 in 1". The card replaces 5 documents.	Private sector financial services providers encouraged to join in the "Lojas do Cidadao" - citizen-centric services outlets mirroring virtual integration of eGov services on the web: providing integrated services for all.	One stop citizen shop concept realized in the "Lojas do Cidadao" – (See Addendum for further details of this extremely interesting innovation).	Interoperability with Belgian scheme is built in from the outset to support pan-European acceptance. Strong communication via AMA (state modernization agency).
Belgium	Health, police and tax links – access to own data in government files. Consumer PKI to allow secure web use. The card introduced in 2004 has been presented as a new secure ID replacing former documents. ID is compulsory for all in Belgium; new rights for citizens have also been granted for more transparency.	Belgian system promoted with use of personal PKI to achieve greater security. Government took an entrepreneurial approach including use of conventional marketing toolkit and promotion of e-ID shops seeking early adopters.	Breadth of government and private sector financial and legal services enabled by the PKI facility. The government's explicit strategy is to create a single virtual public administration and individual initiatives fit within this vision.	Effective promotion of the benefits in response to a clear current issue of child safety. Over 600 services accessible using the card. Cooperation across different constitutional areas was agreed as a constitutional foundation for roll out of services The role of FeDICT (Federal ICT Department) is critical as a prompt to cross departmental engagement and planning.	Innovative use of e-ID to secure web transactions in view of the trauma of child abuse. Belgium is seen as the leading innovator in extending use of e-ID as a building block of e-Government. Residents (EU and non EU) have an e-ID card offering the same level of eServices as nationals. Kids-ID for pre-teenagers is being rolled out in 2009.

Country	Facilities offered at outset?	Government communication of the value of the token	Orchestration of institutions by government	Positioning vis-à-vis citizen convenience	Encouragement of innovation
Estonia	Identification and e-identification, e-signature, tax, parking, SIM transport ticketing, e-voting and close to 100% of the population has an e-ID.	Government commitment to creating leading role for the country in e-domain – a big catch up after the Soviet years. The Estonian commitment to far reaching virtualization and accessibility of public administration offers a complete break with its political history and the e-government program both reflects and drives a wide ranging transformation of government.	Government commitment to wholesale coordination of e-enablement involving all public and many private sector institutions.	Committed to getting the right trade off between privacy and performance. Establishment of a "one stop shop" access Portal for all services.	The use of e-Government has extended right to the Cabinet room of the Estonian government and is embedded in civil service processes. Mobile phone SIM voting in national and local elections M-ID (Mobile ID) to supplement e-ID and add convenience in use.
France	Early association of with health service delivery and robust roll-out of 50 million Sesam-Vitale cards established large volume and a strong business case through admin. Savings in health. e-ID token for taxes is a clear success with 7.3 million e-forms collected in 2008.	For e-Health card: Better services for patients, faster payments. For e-ID token for taxes: speed, simplicity, 20 Euros discount. For National e-ID: National e-ID roll-out probably starting in 2011.	Extensive government effort to stimulate private sector involvement. Creation on integrated portal for citizens in 2008, preparing for e-ID introduction in 2010.	No official strong communication yet as e-ID planned for 2010.	Tolerance of multi-registration in different departments without requiring a single central register.
Oman	The national ID card provides secure access to three main applications that include identity, driver's license and border control.	Creation of a national registry for the population. In January 2004, Oman's national e-ID card program became the first smart card-based e-Government system to be deployed in the Middle East.	Simplify and speed up administrative processes, provide better qualitative public services to Omani citizens and residents, promote the use of IT technology, provide better Homeland Security and pave the way for e-Government services.	Integrated with the e-Oman initiative with support of Government.	Agreements with local banks and public companies: e-purse scheme introduced by Bank of Oman in 2009 e-ID seen as an open platform for additional applications.

Country	Facilities offered at outset?	Government communication of the value of the token	Orchestration of institutions by government	Positioning vis-à-vis citizen convenience	Encouragement of innovation
UAE	From the outset the UAE Population Registry and Identity Card Program (PRIDC) offered a PKI facility. E-Purse facility is also available for handling payments to government bodies. It is an official ID and a travel document in the Gulf Residents have also access to eServices.	Backed with legislative commitments, the program is guided by a clear objective to promote both e-government and e-commerce.	All government and financial institutions have been embraced within a vision to promote efficiency and convenience through making all kinds of transactions easier to complete Civil servants and their families in the Identity authority have been registered as earlier adopters.	The vision of simplifying citizen and resident interaction with the state has been conveyed and many services from employment through health to library and student services are being promoted within the program. There is a clear roadmap to add further facilities over time.	Swift enrolment process of circa 15 minutes duration and rapid roll-out to the population has been achieved. Outreach program to alert population groups and a large number of registration centers to promote rapid uptake.
Qatar	In 2005 introduced as a new secure ID, travel document in the gulf and key to eGov apps. This provides a highly secure access to e-Government services for government officials and dignitaries, using a PKI infrastructure and a certificate authority which was already in place.	Communicated on national security, border control and identity but also promoted easier access to Qatar's e-Government services through leveraging digital signature facility.	Early start : Qatar's e-Government integrated web-based portal is already an effective tool providing numerous services to Qataris including local, State and Government and private sector – databases and is smart-card ready. (http://www.moi.gov.qa). – best practice in the region (OECD report 2005).	Many eServices already in operation: citizens could use their smart ID card to declare a household employee, change of address, or obtain civil records. Moreover, the contactless capability allows this ID card to be used as an ICAO travel document.	New technologies and innovation encouraged by the dignitaries. Strong investments in education, IT infrastructure and partnership. Strong competitive stimulation among the Gulf countries is also a powerful driver.

Spain and Italy, not studied here, have already launched their national e-ID programs in Europe. Lithuania started on January 2009. Germany plans to do so at the end of 2010, France and Poland are targeting 2011 while in the middle-east, Saudi Arabia was an early adopter. Bahrain started in 2007 and Kuwait is implementing its national roll-out in 2009.

While the analysis in the above table supports this conclusion, it remains the case that European and Middle-Eastern implementations have demonstrated that it is possible to make all of the individual components of a successful scheme work. Thus existing schemes have demonstrated that:

- national scale roll-out can be achieved,
- security of tokens can be robust,
- public sector and private sector can collaborate to mutual benefit,
- innovation in services and in the form of e-ID is possible,
- rapid and enthusiastic citizen take-up of national schemes can be achieved.

Key lessons learned

Taking the key questions in turn we would summaries the lessons as follows:

1. **What useful facilities did the ID card offer at the outset?**

The most useful cards are those which are integrated into the economy as a whole and which support a wide range of transactions. The lesson of Belgium, Estonia and Portugal is that a function – rich card is one that will grow more rapidly in public acceptance. There also needs to be a clear political consensus around the introduction of the ID card, based initially on the drive to create a more secure form of citizen identity card, which creates a favorable context for their introduction.

Secure access to e-Banking services with the national e-ID card in Finland.

The replacement of cardboard ID cards with smart cards offers a step change in sophistication and security that could not be achieved without the use of modern technology.

It is also important that the system should be introduced with a sense of ambition to create a step change in public service delivery as has been planned in Portugal with the “one-stop-shop”, including an early decision to make the Portuguese system interoperable with the Belgian.
The most commonly “bundled” capabilities in Europe have been to link the e-ID card with health or travel requirements whether within country or international. It is clear that both inland ticketing and international ICAO functionality can be successfully added to the card “repertoire”.

In Estonia, 15% of e-ID card holders use it daily for public transportation and 10% daily for electronic signature but other applications are soon to follow as well like e-voting.

30,000 Estonians – 3.13% of the electorate – voted electronically in 2007.

In June 2009, 15% of the Estonian voting population, preferred eVoting to traditional voting for the European Parliament elections.

The Estonians believe it is just a question of time before the critical mass is achieved.

Tarvi Martens, Director of Operations for Estonia's certification body"*the Estonians have nothing to fear from online voting. They already have trust in their financial transactions on the Internet; they send their tax declarations online and do money transfers via electronic banks. Why should they not trust voting online?"*

Source: e-Government 2.0 white paper, October 2007, Gemalto & YeMA consultants

2. **How did the government convey a vision of the usefulness of the card, both for government and non-governmental transactions?**

All governments which have invested in ID card schemes have also invested in communication programs to convey the broader potential of the card.

In both Finland and Belgium, the government has sought to promote the general benefits of the e-ID through marketing investments to promote the concept to citizens. The Finnish population register provides a portal offering connections to dozens of e-services from accessing basic citizen information or loyalty program points to cumulated pension earnings and career history.

Countries like Sweden, Estonia, and Belgium are using communication in the same way that modern private-sector service providers manage their customer relations. In these countries, websites, brochures, ideas contests, radio adverts, 24/7 help lines and local coordination have all been used.

While it is true that there has remained a tendency for governments to approach the issue from a security and border control perspective but there are increasing signs of recognition that willing acceptance of the cards by citizens for their own private purposes is vital.

3. **How did the government "orchestrate" the approaches taken by third parties and financial institutions to encourage acceptance of the card?**

The Portuguese scheme was positioned from the outset as part of a wide-ranging transformation of the government machine as it affects individuals with a commitment to create the network of "Lojas de Cidadao" which provide space for private sector participation. Similarly in Belgium it was part of a wholesale e-government program operating within the constraints of the federal policy.

In Sweden, the association of the citizen scheme with banks employed as points of issuance ensured a close link between the financial institutions, and there are plans for the integration of financial applications into some of the Middle-Eastern implementations.

Some countries are examining the possibilities for bank ATMs to provide access for updating administrative documents and to be able to accept and read citizen cards.

Malaysia e-ID and more recently Oman e-ID include an e-purse application for unbanked citizens as a way to promote "e-inclusion"

Portugal was the winner of the 2009 European eGovernment Awards on 19 November 2009 at the eGovernment Ministerial Conference in Malmö (Sweden) with its licensing of Hunters via the "Multibanco" ATM Network.

4. **How did the government position the card vis-à-vis citizen convenience?**

While it is important for the issuance of cards to be positioned as part of a wide-ranging program of public service reform, it is also very important that the practical aspects of token issuance are efficient and convenient for citizens. The swiftest issuance process observed at present is that in UAE where it can take a little as 15 minutes for the citizen to be issued with a card at a dedicated centre. While the average process is significantly longer, it is clear that the technology of issuance can be extremely speedy even if other processes required in particular countries can significantly lengthen the transaction time.

From a technical point of view, it is also very important that middleware applications necessary to make the card function with citizens' personal computers or other devices should be made as freely and transparent available as possible from government sources. This approach has been greatly improved with the introduction of "middleware-less solutions" (Gemalto Coesys eGov 2.0 for example)

Finally, of course, there can be no doubt that the government needs to give a clear and confident lead on the benefits to be derived from implementation of e-ID in order to mobilize citizens – above all the e-ID must be sold to citizens as a useful facility to make their own lives easier.

Estonian ID-card web page (fragment) – here in English – help, blog, success stories..

5. **How was innovation encouraged, without being planned or prescribed, by government?**

Taking the European examples of national e-ID cards there are examples where innovation has been prompted at the technical level, through the use of SIM cards to carry e-ID, at the organizational level where cross-national cooperation has been established to share facilities and in terms of end-users applications, the case of Estonia is an excellent example of a country which has truly grasped the transformational potential of IT and e-ID.

Possibly the most exciting innovation in prospect at present is the possible use of the mobile phone as the vehicle to carry e-ID and other functionality. In view of the fact that the mobile phone now carries a very considerable processing capability, the combination of that capability with an e-ID module in the form of a SIM card or smart card offers potential for presentation of identity information in a manner which is tailored to circumstances.

Thus, a mobile phone coupled with an ID card could be programmed to present information differently to different enquirers. For a medical transaction the mobile could present only the relevant medical data without revealing other information about the citizen while, if the only question being asked were about the citizens age eligibility to drink alcohol for example, the phone could be programmed to reveal only a “yes-no” answer without revealing any other data about the individual.

Such an approach would be technically possible with current technology and would also conform with Kim Cameron’s first four Laws of Identity (User Control, Minimal disclosure, Justifiable parties and Directed identity)

Kids-IDs and safer chat for the Belgian pre-teenagers

The Kids-ID program started in 2007 in Belgium as a pilot and national roll-out was launched in March 2009. The project is the unplanned outcome of the think tank created with citizens, academics and IT specialists by the government. The card is an ID, e-ID, a travel document in the EU and also offers a 24/7 emergency service.

Conclusions

1. The actual implementations of e-ID in European countries and beyond demonstrate that there is a business case to be made for the benefit of citizens, businesses and the government. Moreover, it is clear that the key components of a solution involve technology which is mature, robust and certainly capable of delivering the results required.

2. The lesson of history is that the virtuous circle outcome can be assisted by good forward thinking and a focus on the benefit delivered to citizens. The lessons of comparison with other countries are that leadership based on a well-articulated vision must be shown and that ambition to create a truly useful service with growth potential for the future is vitally important. The potential here is to harness a truly transforming social technology as radical and far-reaching in its implications as the introduction of e-money.

3. It is important for a national scheme to have ambition to be more than the routine and to offer expansive horizons for applications rather than a narrow prescribed list that will neither excite nor expand people's perceptions. The Estonian case is the most ambitious one in Europe at present and sets a pattern that should be considering when creating an identity infrastructure. While the concept of an e-identity infrastructure is a major change, it is also very important at least to outline the "superstructures" that might be built on that foundation, and to give encouragement to innovation across the board.

Addendum 1: Portuguese “Citizen Shops”

The citizen shops in Portugal – making e-Government a physical and human reality

The “**citizen shops**” come under the institute for the management of citizen shops, a public administrative institute that is financially autonomous. It is placed under the authority of the Ministry of Finance.
The “citizen shops” contain many “information stations” whose role is to provide information at the request of users.

The diversity of public bodies collaborating and participating in the services provided by public-service houses is a reflection of the global approach used. This covers the directorate general for social protection, civil servants, public agents, general pension funds, the directorate general for legal services which issues civil status certificates and extracts, the general inspectorate of economic activities and the directorate general for taxes (over 50 bodies are included). There are also relays from the Ministry of Health, the Post Office, the railways and the national tourism agency.

Counters for companies and notaries are featured. Private sector organizations such as banks and telecommunication services are also involved. In addition, the “citizen shops” issue official documents: passports, identity cards and driving licenses in particular.

The citizen shops (Lojas do Cidadao) aim is to concentrate the main public services in the same location, resembling a supermarket more than an administrative area. One of the main shops in Lisbon is over 10,000 m2 on two floors connected by escalators and conveyor belts. A stylish building with 90 counters spread out and organized by type of activity with the style of a luxury department store. The illustration is of a fully integrated in a shopping mall in the suburbs of Lisbon.

The “entrepreneurship counters” provide information and advice for any new business and the use of more general counters enables all administrative obligations and procedures for the allocation of aids and subsidies to be carried out. In the citizen shop illustrated in the following pictures over 200 businesses have been created in January 2008 in less than 1 hour and the number of visitors exceed 4,000 a day.

The attention to detail offered by these new sites goes as far as incorporating citizens' pleasure and emphasizing the citizen in his relationship with public-sector services. With the new "boutiques" located in shopping centers, information panels located on every floor provide information on the queuing times at different counters, offering citizens the choice of doing some shopping or relaxing at a café until their turn comes at the counter they are waiting for.

Another example of the attention to detail is to have dared to embark on a purely semantic front-office approach for the service, with the paths to follow marked out and with all-integrating terminals - "I've lost my wallet", "I'd like to take my retirement", "I'd like to create my own business in an hour", etc. The aim of these counters is to mask the complexity of the inter-operability of the services in the background.

One of the most important innovations is the new user-reception models, multiservice and integrated services, available in the face-to-face way (Citizen’s Shop and Municipalities).

The multi-services desk, provides a generalist, multifunctional service based on user reception scripts and knowledge bases, and applies to services with a low level of specialization that are provided in a single, quick interaction (more than 60 products from 20 different public entities, more than 100.000 user visits in 2008).

The integrated desk offers a service which is geared towards certain events or processes that are important to people: replacing stolen documents, “I Lost my wallet”, in a single point contact the citizens can replace 5 personal documents from 8 different entities (more than 40.000 user visits in 2008).

The Senior Desk (services from central and local government for older people in a single point contact) is available in 3 small municipalities. Source: http://www.epractice.eu/en/cases/2gpcs October 2009.

Integrated services include national ministries, local authorities, post office, electricity-gas-phone-cable TV companies' desks and new integrated citizen-centric desk like "I lost my wallet". They all share the same back-office infrastructure. The blue line is dedicated to business services.
e-IDs are distributed at the same premises and the same services can also be found on the web.

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