Overviews
Current Biometric Implementations
In European Union Member States

By Sébastien Baqué
(**Unisys Belgium**)
For
The European Biometrics Portal
September 29, 2005

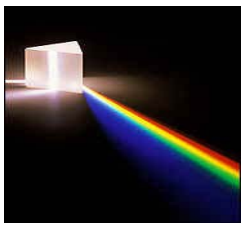
and

A Hyperlinked Listing of Other Documents
Available At the EBP Website As of November 22, 2005

Assembled in One Document By
Biometric Bits
The Key To Identity Management Information

Published by

IMPRESS
The Identity Management Press



This document is searchable and uses the Adobe Acrobat Bookmark Window for rapid navigation. It can be viewed with Adobe Acrobat Reader 6 or better and is best viewed with Adobe Acrobat Reader 7.

Introduction and Credits

The European Biometrics Portal (EBP) was initiated by the European Commission on 1 October 2005, to encourage and support the exchange of information and data on biometric technology initiatives, deployments and trials in European Member States. EBP is a free service and the quality of the EBP content is dependant on the quality of contributions by its users.

Now that the service has been in operation for a while, Biometric Bits has independently gathered together in this publication the country summaries that have been posted at the EBP. We have also listed, in an appendix, all other documents posted or referenced at the EBP as of November 22, 2005.

If the EBP is to be a comprehensive, free information service for those interested in the scientific, technical, policy and practical aspects and issues relating to identity management, it must have a reliable, comprehensive and readily accessible library of information. Our intent in circulating this compilation is to stimulate contributions to the EBP collection and to promote comment concerning the accuracy and adequacy of the materials thus far posted.

In addition to functioning as an information resource, we hope that this publication will provide a basis for interested donors to provide historical and future information to the EBP, so that it can truly be a valuable identity management information resource, not only for the European Community, but also for scholars, developers, governments and other users throughout the world. It will also provide a model for similar libraries to be created in other parts of the world, working together, across language and cultural barriers, to create effective identity management systems that respect the dignity and privacy of the individual.

Our provision of all these materials does not constitute an endorsement as to accuracy or completeness by Biometric Bits or the EBP.

Henry J, Boitel **December 2, 2005**
Biometric Bits – The Key to Identity Management Information
Biometric Bits Website - http://www.biometricbits.com/
The Biometrics Discussion Group
http://www.biometricbits.com/biometrics_discussion_group.htm

Table of Contents

Cover	1
Introduction and Credits	2
This Table of Contents	3
Overviews on Current Biometric Implementation in EU Member States	3-42
Appendix 1 – EBP Resource Topical Outline	43-46
Appendix 2 – Additional Papers and Resources posted to the EBP, as of 22 November 2005	47-52

==========

Overviews on Current Biometric Implementations in EU Member States

The country-specific material on the following pages was published on 29 September 2005 at the European Biometrics Portal. Its author is Sébastien Baqué of Unisys, Belgium.

At the EBP website these reports appear as a separate PDF document for each member state. We have grouped all the reports in one PDF document, arranged in alphabetical order by member state. We have also made the document searchable across all reports. Bookmarks leading to each individual report have also been added.

These reports can be found at the European Biometrics Portal under the resource heading "Situation in EU Member States" at:

http://www.europeanbiometrics.info/resources/index.php?Id_Folder_tx=175#175

Austria

1. e-Government

a. Historical information

Austria is active in this field: the Austrian government recently set itself the target of bringing Austria in the top five of the European e-government league table. On 19 September 2002, a report presented the Austrian approach to e-government and its view as to what facilitates the use and the participation in it.

b. Developments

With the Citizen's card or *Bürgerkarte (2002),* Austria was second only to Finland in introducing fully operational electronic ID cards in Europe. Other initiatives were launched, such as an e-Government Platform (2003), an e-voting system (2003), electronic health insurance card (2004), an official and secure e-mail system (2004), the *Elektronischen Akt*, or ELAK (2004), which enable paperless internal government communications.

2. Biometrics

Austria is one of the 27 countries currently in the American Visa Waiver Programme included in the US-VISIT programme. Thus, it is required to hold computer-readable passports containing biometric identifiers that comply with the International Civil Aviation Organization standards.

In order to ensure EU-wide consistency, the European Commission presented on 18 February 2004 a proposal for a Regulation on standards for security features and biometrics in EU citizens' passports. According to this proposal, future passports issued by EU Member States should contain only one mandatory biometric identifier, the holder's facial image. However, fingerprints or other features could be added at the discretion of individual Member States.

Moreover, on June 2004 the G5 Ministers called for ever closer co-operation on policing, data sharing and border security in order to tackle international terrorism and organised crime. This includes the introduction of biometric passports for all EU citizens.

The General Affairs Council meeting in Brussels on 13/12/2004 adopted a regulation mandating the inclusion of both facial image and fingerprints in future passports and travel documents issued by EU Member States.

Belgium

1. e-Government

a. Historical information

On the one hand, at the beginning of 2003 Belgium was the first country to announce it would supply with electronic ID cards in Europe its entire population (around 11 million people). The Belgian Personal Identity Card (BeIPIC), which is the size of a credit card, should give Belgians simpler, faster and more secure access to administrative procedures. It allows citizens to access various e-government services, such as e-voting, tax returns and civil records.

On the other hand, it was the latest country to convert to e-Tax with Tax-on-web.

b. Developments

Other initiatives were launched, such as e-Notaries (2000) aiming to digitise all proceedings and communications between notaries public and public administrations, Irisbox (2002) providing online services for the public in the Brussel's 19 administrative districts, e-voting (2003), e-ID technology into MSN Messenger for online identification (2005),

2. Biometrics

a. Starting point

Belgium is one of the 27 countries currently in the American Visa Waiver Programme included in the US-VISIT programme. Thus, it is required to hold computer-readable passports containing biometric identifiers that comply with the International Civil Aviation Organization standards.

In order to ensure EU-wide consistency, the European Commission presented on 18 February 2004 a proposal for a Regulation on standards for security features and biometrics in EU citizens' passports. According to this proposal, future passports issued by EU Member States should contain only one mandatory biometric identifier, the holder's facial image. However, fingerprints or other features could be added at the discretion of individual Member States.

Moreover, on June 2004 the G5 Ministers called for ever closer co-operation on policing, data sharing and border security in order to tackle international terrorism and organised crime. This includes the introduction of biometric passports for all EU citizens.

The General Affairs Council meeting in Brussels on 13/12/2004 adopted a regulation mandating the inclusion of both facial image and fingerprints in future passports and travel documents issued by EU Member States.

b. Debate

Belgium's new electronic identity cards will cost up to four times the price of their low-tech counterparts (€10 to €15 every five years against €5 to €7 every ten years). Every Belgian citizen will be required to own an electronic ID card by the end of 2009.

c. Developments

The future Belgian passports, presented on 17 May 2004 by Foreign Affairs Minister, will feature a contactless microchip that will store personal identification data including a biometric identifier. Face recognition is likely to be chosen as the biometric technology to be used, but the passport could also include the holder's fingerprints as a second biometric identifier.

Cyprus

1. e-Government

a. Historical information

An ad-hoc Ministerial Committee for the development of the Information Society has been established, comprising representatives of several Ministries as well as of the Planning Bureau, the Telecommunication Authority and the Department of Computer Science at the University of Cyprus. Several pieces of legislation were in the pipeline in 2003, in particular regarding Personal Data Protection and Digital Signatures, which should facilitate and encourage the development of the information society and e-government.

b. Developments

At that time, the government was building up an ICT infrastructure and it was actively engaged in building a Government Data Network (GDN) interconnecting all government information systems. A government portal had also been built.

2. Biometrics

In order to ensure EU-wide consistency, the European Commission presented on 18 February 2004 a proposal for a Regulation on standards for security features and biometrics in EU citizens' passports. According to this proposal, future passports issued by EU Member States should contain only one mandatory biometric identifier, the holder's facial image. However, fingerprints or other features could be added at the discretion of individual Member States.

Moreover, on June 2004 the G5 Ministers called for ever closer co-operation on policing, data sharing and border security in order to tackle international terrorism and organised crime. This includes the introduction of biometric passports for all EU citizens.

The General Affairs Council meeting in Brussels on 13/12/2004 adopted a regulation mandating the inclusion of both facial image and fingerprints in future passports and travel documents issued by EU Member States.

Czech Republic

1. e-Government

a. Historical information

An Act on Information Systems in Public Administrations was passed in September 2000 and a Ministry of Informatics has been established in January 2003. The framework is complemented by legislation passed in the field of Freedom of Information (May 1999), Data Protection (April 2000), and Digital Signature (June 2000).

b. Developments

A “Public Administration Intranet” has been built.) to ensure secure and cost-efficient data and voice communications, as well as access to central information resources for all public administration bodies, including schools and libraries. The development and provision of authorisation and authentication services (including smart cards), data standards, interoperability and security were due to be conducted during 2003 and 2004.

The Czech Republic has launched a new e-government portal for citizens and businesses in October 2003. Data from local government are obtained from the ePUSA project. Information concerning the support of commerce and export are derived from the BusinessInfo Portal.

Systems for m-ticketing (transport passengers, 2004) and e-tolling (lorries, 2005) have been put into place.

2. Biometrics

In order to ensure EU-wide consistency, the European Commission presented on 18 February 2004 a proposal for a Regulation on standards for security features and biometrics in EU citizens' passports. According to this proposal, future passports issued by EU Member States should contain only one mandatory biometric identifier, the holder's facial image. However, fingerprints or other features could be added at the discretion of individual Member States.

Moreover, on June 2004 the G5 Ministers called for ever closer co-operation on policing, data sharing and border security in order to tackle international terrorism and organised crime. This includes the introduction of biometric passports for all EU citizens.

The General Affairs Council meeting in Brussels on 13/12/2004 adopted a regulation mandating the inclusion of both facial image and fingerprints in future passports and travel documents issued by EU Member States.

Denmark

1. e-Government

a. Historical information

The Danish government has published as soon as on February 2003 a white paper on enterprise architecture that includes recommendations on e-government architecture development in the Danish public sector.

b. Developments

Digital signature, data standards website, celebration of e-Days, adoption of the OASIS Universal Business Language as a standard, e-Invoicing, virtual police station… these are Danish developments in the field of e-Government.

2. Biometrics

a. Starting point

Denmark is one of the 27 countries currently in the American Visa Waiver Programme included in the US-VISIT programme. Thus, it is required to hold computer-readable passports containing biometric identifiers that comply with the International Civil Aviation Organization standards.

In order to ensure EU-wide consistency, the European Commission presented on 18 February 2004 a proposal for a Regulation on standards for security features and biometrics in EU citizens' passports. According to this proposal, future passports issued by EU Member States should contain only one mandatory biometric identifier, the holder's facial image. However, fingerprints or other features could be added at the discretion of individual Member States.

Moreover, on June 2004 the G5 Ministers called for ever closer co-operation on policing, data sharing and border security in order to tackle international terrorism and organised crime. This includes the introduction of biometric passports for all EU citizens.

The General Affairs Council meeting in Brussels on 13/12/2004 adopted a regulation mandating the inclusion of both facial image and fingerprints in future passports and travel documents issued by EU Member States.

b. Developments

On February 2004, company Setec announced that it had won an order from the Danish Government to provide almost 3 million biometric passports over the next 5 years. The passports, which will be produced in Finland and personalised by Setec Denmark, will feature a biometric identifier (a facial image of the holder) stored in a microchip.

Estonia

1. e-Government

a. Historical information

An important development took place in June 2002 regarding the online availability of public sector information, when the electronic version of the official gazette went live on the Internet, In order to provide electronic and public access to all legislation.

b. Developments

On 12/03/2003 a new and ambitious e-government portal was unveiled. Branded 'the Citizen's IT Center", the site is meant to provide a single, one-stop umbrella for the many government services already online, and for all new services being developed.

The Government published on 12/03/2003 a white paper on its electronic machine-readable format ID card initiative. Estonia was, together with Finland, Italy and Austria, one of the first European countries to issue fully functional electronic ID cards to its citizens.

The developments in Estonia are: a harmonisation of digital signature practices with Finland, e-Tax, creation of en e-Governance academy, e-Voting in Tallinn (and soon in the whole country, in spite of a recent controversy after a veto of the President).

2. Biometrics

In order to ensure EU-wide consistency, the European Commission presented on 18 February 2004 a proposal for a Regulation on standards for security features and biometrics in EU citizens' passports. According to this proposal, future passports issued by EU Member States should contain only one mandatory biometric identifier, the holder's facial image. However, fingerprints or other features could be added at the discretion of individual Member States.

Moreover, on June 2004 the G5 Ministers called for ever closer co-operation on policing, data sharing and border security in order to tackle international terrorism and organised crime. This includes the introduction of biometric passports for all EU citizens.

The General Affairs Council meeting in Brussels on 13/12/2004 adopted a regulation mandating the inclusion of both facial image and fingerprints in future passports and travel documents issued by EU Member States.

Finland

1. e-Government

e-Signature (January 2003), e-Notifications for crimes (2002), e-ID card (including social security card), harmonisation of e-signature practices with Estonia, establishment of a one-stop shop for e-Government services (September 2003)… Those are the developments of e-Government in Finland.

Finnish citizens might be able to vote electronically through the Internet or via mobile phone in 2007. This is the goal of a new project to develop a smart card-based solution for e-enabled elections.

2. Biometrics

a. Starting point

Finland is one of the 27 countries currently in the American Visa Waiver Programme included in the US-VISIT programme. Thus, it is required to hold computer-readable passports containing biometric identifiers that comply with the International Civil Aviation Organization standards.

In order to ensure EU-wide consistency, the European Commission presented on 18 February 2004 a proposal for a Regulation on standards for security features and biometrics in EU citizens' passports. According to this proposal, future passports issued by EU Member States should contain only one mandatory biometric identifier, the holder's facial image. However, fingerprints or other features could be added at the discretion of individual Member States.

Moreover, on June 2004 the G5 Ministers called for ever closer co-operation on policing, data sharing and border security in order to tackle international terrorism and organised crime. This includes the introduction of biometric passports for all EU citizens.

The General Affairs Council meeting in Brussels on 13/12/2004 adopted a regulation mandating the inclusion of both facial image and fingerprints in future passports and travel documents issued by EU Member States.

b. Developments

It had been announced on 10 January 2005 that a new passport information system and biometric passports should be introduced in May 2005 at the earliest, at a rhythm of approximately 400,000 documents per year over a 4-year period. These e-passports have high-tech security features, including a polycarbonate data page containing a ‘contactless’ crypto processor chip storing the holder’s personal details and biometric identifiers.

In addition to the facial image of the holder, a second biometric identifier – fingerprint scans – will be introduced in 2006-2007. And in addition to complying with the standards set by the ICAO, the passport will include the following optional security features: a personal identity code; prevention of unauthorised reading, copying or substitution of the chip; encryption of data communication between chips and chip readers.

France

1. e-Government

a. Historical information

As early as January 2003, the government announced the creation of an e-government agency, which should act as an information technology consultancy to public administrations and should employ around 50 people.

b. Developments

In March 2003, a call for projects for the development of the 'Daily Life Card' has been launched. This card was intended to be a locally delivered and administered smart card providing citizen identification and/or authentication for accessing a series of public services delivered locally.

Followings are the developments of e-Government in France: e-Voting (which firstly was allowed for French citizens living abroad and only for the elections to the 'Superior Council of the French leaving abroad', then it was tested for the 2004 regional elections, finally an Internet voting system was tested for the professional election of October 2004), e-Taxing (as early as 2000), Public-Private solution for public e-Procurement (July 2003), e-Signature, e-ID (announced in September 2003 for 2006), e-enacting for legal acts and regulations (February 2004), e-Parking Fines (in Cannes).

France cooperates with Germany in the field of e-Government: the Franco-German initiatives aim at fostering the mobility of citizens by developing a common electronic authentication structure and a number of cross-border e-services. Currently, they are focused on the use of smart cards. In this respect, the two governments are working on the development of common technical specifications for e-ID cards.

2. Biometrics

a. Starting point

France is one of the 27 countries currently in the American Visa Waiver Programme included in the US-VISIT programme. Thus, it is required to hold computer-readable passports containing biometric identifiers that comply with the International Civil Aviation Organization standards.

In order to ensure EU-wide consistency, the European Commission presented on 18 February 2004 a proposal for a Regulation on standards for security features and biometrics in EU citizens' passports. According to this proposal, future passports issued by EU Member States should contain only one mandatory biometric identifier, the holder's facial image. However, fingerprints or other features could be added at the discretion of individual Member States.

Moreover, on June 2004 the G5 Ministers called for ever closer co-operation on policing, data sharing and border security in order to tackle international terrorism and organised crime. This includes the introduction of biometric passports for all EU citizens.

The General Affairs Council meeting in Brussels on 13/12/2004 adopted a regulation mandating the inclusion of both facial image and fingerprints in future passports and travel documents issued by EU Member States.

b. Debate

On 26 May 2005 organisations representing a wide-range of civil society and professional sectors launched a campaign against the biometric ID card and a petition demanding the “immediate withdrawal” of the project.

"The project aims to build a nation-wide centralised police file containing the biometric data and the address of each citizen”, the petition says, adding that because information would also be stored in each ID card’s ‘contactless’ chip, personal data could be read without the consent of the cardholder. "The government recognises that the ultimate goal of the project is to set up a universal card which integrates the identity, the benefit of social rights and the ability to access services and pay transactions. The idea is to make the individual totally transparent to both public authorities and commercial actors", explained the six organisations.

In addition to warning against potential breaches of privacy and human rights, the campaign also questions the strategic motivations of the French government, particularly with regard to the fight against identity fraud and terrorism. Indeed, the six organisations point out that the authorities were unable to provide reliable figures on identity fraud, and believe that organised criminals would be able to produce fake biometric IDs.

The INES project will among other things merge, secure and simplify the procedures for requesting ID cards and passports, improve the management of ID documents, and provide citizens with an electronic signature that is expected to foster the take-up of e-government and e-commerce services. Personal information contained in the future ID cards and passports will be stored in a new, common database, while biometric data – facial image and fingerprints – is expected to be anonymously stored in separate files.

A report published on 16 June 2005 by the Internet Rights Forum – an advisory body bringing together 70 organisations from the public, private, and not-for profit sectors – has raised concerns regarding the French e-ID card project and called for a review of the proposed scheme (known as ‘INES’).

Position of the government

On 1 February 2005 the Ministry of the Interior launched an online debate over the proposed national electronic ID card. In particular, citizens are invited to make their opinions heard on a number of key issues such as:

- Replacing the current national ID card with an e-ID card containing biometric identifiers – digital picture and fingerprint scans – stored in a microchip.
- Defining the measures required for privacy protection.
- Accessing e-government and e-commerce services via the electronic ID card.
- Delivering the card, including logistics and cost aspects.

Due to strong opposition to the project (six associations + CGT + report of 20 June), in late June 2005 French Interior Minister Nicolas Sarkozy said he wanted to "think more" about the project in order to "assess were we want to go, and at what cost". Mr Sarkozy also said that "while European rules force us to implement biometric passports rapidly, the e-ID card is a different matter".

c. Developments

In April 2003, in order to better deal with illegal immigration and the threats of terrorism and organised crime, the government was looking at using biometrics to improve border control. According to plans prepared by the Ministry of the Interior all applicants for tourist visas should be fingerprinted and a central database designed to track and identify illegal immigrants should be put into place.

In September 2004, the Government declared that the e-ID card announced a year before would include a second biometric identifier – probably scanned fingerprints – in addition to the facial image of the holder.

The French e-ID project, baptised "INES" ('*Identité Nationale Electronique Sécurisée*', or 'Secured Electronic National Identity'), has been accepted in April 2005. Procurement for the project was originally expected to begin before the end of 2004, with a view to develop and test the card during 2005 and start distribution in 2006. According to press reports, distribution of the e-ID cards is now expected to begin in 2007, while the government still hopes to start issuing biometric passports during 2006. The INES project is expected to cost about €205 million per year, including the initial investments.

The card, containing a chip carrying all identity information of the holder person, will provide each citizen with an electronic signature allowing secure access to both e-government and e-commerce services and transactions.

An Study on fingerprint, iris, and facial-recognition data collected since October 2004, has been carried out by the French civil aviation authority in January 2005 (for 6 months).

The pilot programme Pegase, a voluntary biometric identification programme for travellers, which is available to EU and Swiss citizens, was launched on 1 June 2005 by Air France and the border police at the Charles de Gaulle Airport. It is designed to allow for quicker and easier border control for registered passengers while increasing border control security.

Created by Air France, the programme is based on a fingerprint identification application developed by SAGEM and could raise a number of privacy issues because it implies the creation of a centralised database storing personal details, including scans of the left and right index fingerprints of the enrolled passengers. However, because enrolment in the scheme is voluntary, the creation of the trial database was approved.

Germany

1. e-Government

a. Historical information

As early as 2002, Germany launched a consultation on e-Voting and adopted the BundOnline 2005 initiative, which aimed to have "all feasible federal administration services available online by 2005" (that concerns almost 400 services).

Since 2003, Germany organised EU-wide conferences in on e-Government (CeBIT, eGO, etc.) and it stepped into a new phase of the standardisation of federal e-government applications with SAGA (Standards and Architectures for e-Government-Applications). An e-Government manual was also published.

b. Developments

In June 2003, the Federation, Länder and municipalities agreed on a common e-government strategy entitled “DeutschlandOnline” and identifying five priorities in order to bring faster, more consistent and more efficient services by working together.

In January 2004, the Federal Administrative Court adopted the central e-payment platform developed within the BundOnline 2005 framework.

Germany is also studying the feasibility of introducing an electronic health insurance card (for January 2006) and an e-Tax system (with a change course in July 2004).

An e-Toll system for lorries is running since 1st January 2005, and several m-Parking (Berlin) and m-Ticketing (Berlin, Frankfurt) systems are running.

The Franco-German e-government cooperation aims define common specifications and standards (applicable for instance to e-ID or e-health insurance cards) which the two countries believe may also be shared with other EU Member States and thus, at a later stage, evolve into a common European standard.

2. Biometrics

a. Starting point

Germany is one of the 27 countries currently in the American Visa Waiver Programme included in the US-VISIT programme. Thus, it is required to hold computer-readable passports containing biometric identifiers that comply with the International Civil Aviation Organization standards.

In order to ensure EU-wide consistency, the European Commission presented on 18 February 2004 a proposal for a Regulation on standards for security features and biometrics in EU citizens' passports. According to this proposal, future passports issued by EU Member States should contain only one mandatory biometric identifier, the holder's facial image. However, fingerprints or other features could be added at the discretion of individual Member States.

Moreover, on June 2004 the G5 Ministers called for ever closer co-operation on policing, data sharing and border security in order to tackle international terrorism and organised crime. This includes the introduction of biometric passports for all EU citizens.

The General Affairs Council meeting in Brussels on 13/12/2004 adopted a regulation mandating the inclusion of both facial image and fingerprints in future passports and travel documents issued by EU Member States.

b. Debate

As early as in 2003, there was a debate on e-Government in general. Federations of industries and workers want more development of e-Government. On another hand, studies shown that SMEs were not enough informed and the e-services were not enough available for them.

c. Developments

i. 2003

In September 2003, The Minister of the Interior saw urgent need for the introduction of biometric identification documents in Germany and in Europe. He said, it was necessary to create without delay "the legal bases for inserting biometric characteristics in passports, identity papers and visas". He also said that it was 'nonsense' to consider the use of biometrics as being detrimental to citizens' rights.

The Federal Information Security Agency (BSI) released a study in 2003, which raised doubts about the possibility to deploy face recognition technology for large-scale identification and border control systems (BioFace project).

ii. 2004

On 13 February 2004, the Minister of the Interior kicked off a new biometric border control system based on iris scanning at the Frankfurt airport, where a six months (extended for twelve) pilot project was run.

In April 2004, the Office of Technology Assessment (OTA), an independent scientific institution that advises the German Parliament, published a first report analysing the technical, political and legal issues of introducing biometric identifiers in ID cards and passports. It identifies a number of challenges that should be addressed before such an introduction can be considered.

In October 2004, in a second report, the OTA evaluated the costs of switching to biometric passports and ID cards. Depending on different scenarios and document features, the report says, the price tag could range from €22 million to €700 million for implementation and from €4.5 million to €600 million for annual maintenance.

iii. 2005

Called “ePass”, the new German passport, which is expected to be launched on 1 November 2005, will include an embedded radio frequency identification (RFID)

chip that will initially store personal information such as name and date of birth, as well as a digital facial image of the holder.

In a second phase – starting in March 2007 – the chip will also store a scan of the holder's left and right index fingerprints. According to Mr Schily, a third biometric identifier – iris scans – could be added at a later stage.

With this decision of the German Cabinet on 22 June 2005, Germany will become one of the first countries in the world to issue its citizens with biometric travel documents.

Greece

1. e-Government

a. Historical information

As early as during its Presidency of the EU, Greece launched an e-Vote initiative on its website.

b. Developments

On 19 October 2004, the Minister of the Interior reaffirmed that reforming the state through e-government is a key goal and a priority for Greece. Combining structural state reforms with the adoption of new technologies should allow the Greek Government to make the country's public administration more transparent and citizen-focused.

Announced in late 2004, the first Greek Digital City is being developed and should be completed by mid-2006. The e-Trikala initiative aims to improve everyday life by simplifying public transactions, reducing telecommunication costs, delivering new electronic services, and offering new methods to enable citizens to participate in policy-making. The Digital City model consists in four layers:

- Infrastructure: hardware and software necessary to make the Digital City operational (such as broadband networks, public terminals, etc.).
- Applications: e-government services.
- Back-office: all public authorities and organisations that produce and deliver information and electronic public services to end-users.
- End-users: citizens, groups of citizens, and businesses.

2. Biometrics

a. Starting point

In order to ensure EU-wide consistency, the European Commission presented on 18 February 2004 a proposal for a Regulation on standards for security features and biometrics in EU citizens' passports. According to this proposal, future passports issued by EU Member States should contain only one mandatory biometric identifier, the holder's facial image. However, fingerprints or other features could be added at the discretion of individual Member States.

Moreover, on June 2004 the G5 Ministers called for ever closer co-operation on policing, data sharing and border security in order to tackle international terrorism and organised crime. This includes the introduction of biometric passports for all EU citizens.

The General Affairs Council meeting in Brussels on 13/12/2004 adopted a regulation mandating the inclusion of both facial image and fingerprints in future passports and travel documents issued by EU Member States.

b. Debate

The Hellenic Data Protection Authority announced on 10/11/2003 that advanced identity checks using biometrics keys such as fingerprint and iris scans would breach the Greek data privacy laws. The authority thus banned Athens International Airport from checking and recording passengers' fingerprints and irises as part of a pilot security program that was scheduled to start before end November and to last five months.

Hungary

1. e-Government

a. Historical information

The formulation and the coordination of the implementation of Hungary's e-government strategy, presented in 2002, is the responsibility of the Electronic Government Centre within the Prime Minister's Office. It is based on the vision of a service-providing State. By contributing to making public services customer-focused, e-government indeed acts an important catalyst for the modernisation of public administrations. At the same time, it gives citizens an opportunity to voice their opinions and to interact with public authorities in a direct way, thereby opening new doors for democracy.

b. Developments

In January 2003, Hungary already wanted to improve local and national e-Government services by the second half of 2004. Thus, as early as in November 2004, the government has developed m-Government services. In addition of that, a report presented in March 2005 has shown that the Hungarian e-Parliament programme, launched in 2002 to support the modernisation of parliamentary work, is achieving increasingly tangible results: constant improvements have been observed regarding both the effectiveness and the transparency of law-making processes, while the paper consumption of Parliament has been significantly reduced.

In spite of that, a recent survey has revealed that Hungarian local authorities are still a long way from realising the e-Government vision, and a new law aimed at removing obstacles was recently passed by Parliament and will enter into force on 1 November 2005.

2. Biometrics

In order to ensure EU-wide consistency, the European Commission presented on 18 February 2004 a proposal for a Regulation on standards for security features and biometrics in EU citizens' passports. According to this proposal, future passports issued by EU Member States should contain only one mandatory biometric identifier, the holder's facial image. However, fingerprints or other features could be added at the discretion of individual Member States.

Moreover, on June 2004 the G5 Ministers called for ever closer co-operation on policing, data sharing and border security in order to tackle international terrorism and organised crime. This includes the introduction of biometric passports for all EU citizens.

The General Affairs Council meeting in Brussels on 13/12/2004 adopted a regulation mandating the inclusion of both facial image and fingerprints in future passports and travel documents issued by EU Member States.

Ireland

1. e-Government

Despite the e-Government strategy was suffering of a "lack of strategic direction" – according to professionals in 2002 – developments are numerous: mobile e-Services for nurses (2002), passport applications online (€22mln contract awarded to KPMG Consulting), e-Enable Civil Registration, e-Voting, e-Procurement, e-Motor Tax (2003).

But there were also the establishment of a unique Personal Public Service Number for public services and e-government, a proposition to creating a Public Service Card, the launch of e-Cabinet that allows the entire Cabinet decision-making process to be online, m-Parking services in Dublin (2004), a tax administration's SMS service, a single smart card for all public transport, etc. (2005)

2. Biometrics

a. Starting point

Ireland is one of the 27 countries currently in the American Visa Waiver Programme included in the US-VISIT programme. Thus, it is required to hold computer-readable passports containing biometric identifiers that comply with the International Civil Aviation Organization standards.

In order to ensure EU-wide consistency, the European Commission presented on 18 February 2004 a proposal for a Regulation on standards for security features and biometrics in EU citizens' passports. According to this proposal, future passports issued by EU Member States should contain only one mandatory biometric identifier, the holder's facial image. However, fingerprints or other features could be added at the discretion of individual Member States.

Moreover, on June 2004 the G5 Ministers called for ever closer co-operation on policing, data sharing and border security in order to tackle international terrorism and organised crime. This includes the introduction of biometric passports for all EU citizens.

The General Affairs Council meeting in Brussels on 13/12/2004 adopted a regulation mandating the inclusion of both facial image and fingerprints in future passports and travel documents issued by EU Member States.

b. Developments

Given the numbers of Irish travellers to the US, the Irish Foreign Affairs minister said in February 2004: “it is highly desirable that Ireland should remain a participant in the visa waiver programme and I am recommending to the government, therefore, that Ireland should introduce passports containing biometric information, subject to the conduct of a feasibility study of the detailed arrangements for implementing this”.

Italy

1. e-Government

a. Historical information

Italy is one of the most active countries in this field. The government adopted policy and common vision for e-Government as early as in 2002. In 2003, it announced the distribution of 1.5 million of e-ID Card by the end of the year. For its EU Presidency, Italy announced a ambitious e-Government plan.

b. Developments

In May 2003, the government has taken a new initiative that confirms the innovative use it makes of e-government as an instrument of foreign policy: it announced that it was creating a preferential policy to assist Balkan countries in the process of implementing e-government.

Developments in the field of e-Governments are numerous: e-Procurement, e-Social Security Card, e-Voting, legal status to registered e-mails, t-government (which will promote the delivery of e-government services through digital television), e-Government Services Cards (including an e-payment function), e-ticketing in Rome.

2. Biometrics

a. Starting point

Italy is one of the 27 countries currently in the American Visa Waiver Programme included in the US-VISIT programme. Thus, it is required to hold computer-readable passports containing biometric identifiers that comply with the International Civil Aviation Organization standards.

In order to ensure EU-wide consistency, the European Commission presented on 18 February 2004 a proposal for a Regulation on standards for security features and biometrics in EU citizens' passports. According to this proposal, future passports issued by EU Member States should contain only one mandatory biometric identifier, the holder's facial image. However, fingerprints or other features could be added at the discretion of individual Member States.

Moreover, on June 2004 the G5 Ministers called for ever closer co-operation on policing, data sharing and border security in order to tackle international terrorism and organised crime. This includes the introduction of biometric passports for all EU citizens.

The General Affairs Council meeting in Brussels on 13/12/2004 adopted a regulation mandating the inclusion of both facial image and fingerprints in future passports and travel documents issued by EU Member States.

b. Developments

On 11 December 2003, the government presented a prototype of its future passport, including three biometric identifiers (the holder's facial image and two fingerprints) stored in a microchip. Italy was therefore on track to become the first country in the world to introduce a biometric passport.

Italy

On 31 March 2004, the government created a new working group that will establish guidelines for the use of biometric technologies in the public sector. A competence centre was also established to assist public administrations in the biometric area.

On 28 October 2004, the government has published the first version of its biometric guidelines, aimed at providing public sector bodies with useful information regarding the integration of biometric technologies in e-government projects.

Latvia

1. e-Government

a. Historical information

Only little information is available on Latvia in the field of e-Government. Latvia's information society strategy is coordinated by a Department at the Ministry of Transport and Communication, which is notably in charge of driving forward the implementation of the Latvian e-government "concept" (strategy) adopted in September 2002. Nevertheless, at an operational level, part of the e-government drive is conducted by the State Information Network Agency (VITA).

b. Developments

In the last few years, the country has adopted a package of legislation which has paved the way for the creation of an e-government infrastructure called State Significance Data Transmission Network.

In September 2001, the Latvian Government approved a “Concept on Identity Cards”, and in 2002, it adopted an “e-Government Functional Model”.

In October 2004 the previous Latvian government decided to put on hold its electronic identity card project until precise EU requirements for travel and identification documents are known.

On 19 April 2005 the new government started consultations with telecommunications about the implementation of secure electronic signatures in the country. The Prime Minister considers that its implementation has to be hastened and should start already in the autumn of this year.

The government also has to make further decisions concerning funding for the creation of the e-Signature infrastructure and for the implementation of the secure e-Services using it.

2. Biometrics

In order to ensure EU-wide consistency, the European Commission presented on 18 February 2004 a proposal for a Regulation on standards for security features and biometrics in EU citizens' passports. According to this proposal, future passports issued by EU Member States should contain only one mandatory biometric identifier, the holder's facial image. However, fingerprints or other features could be added at the discretion of individual Member States.

Moreover, on June 2004 the G5 Ministers called for ever closer co-operation on policing, data sharing and border security in order to tackle international terrorism and organised crime. This includes the introduction of biometric passports for all EU citizens.

The General Affairs Council meeting in Brussels on 13/12/2004 adopted a regulation mandating the inclusion of both facial image and fingerprints in future passports and travel documents issued by EU Member States.

Lithuania

1. e-Government

a. Historical information

In June 2003, the "state of e-government in the accession countries (Part 2)" IDA document said that a relatively well-developed legal framework was in place to support the development of e-Government, including the Law on Legal Protection of Personal Data (1996) and the Law on Electronic Signature (2000). In April 2002, the Ministry of Economy also approved regulations regarding some information society services, in particular electronic commerce.

b. Developments

On another hand, the infrastructure was still under development, but the government has given priority to infrastructure and back-office projects, with specific efforts dedicated to creating an integrated system of state registers. In particular, the integration of the tax inspection and social security registers was due to be finalised soon.

An e-Tax system has also been implemented.

2. Biometrics

In order to ensure EU-wide consistency, the European Commission presented on 18 February 2004 a proposal for a Regulation on standards for security features and biometrics in EU citizens' passports. According to this proposal, future passports issued by EU Member States should contain only one mandatory biometric identifier, the holder's facial image. However, fingerprints or other features could be added at the discretion of individual Member States.

Moreover, on June 2004 the G5 Ministers called for ever closer co-operation on policing, data sharing and border security in order to tackle international terrorism and organised crime. This includes the introduction of biometric passports for all EU citizens.

The General Affairs Council meeting in Brussels on 13/12/2004 adopted a regulation mandating the inclusion of both facial image and fingerprints in future passports and travel documents issued by EU Member States.

Luxembourg

1. e-Government

In February 2005, the government has decided to adopt Hermes, the ICT project management methodology used by the Swiss federal administration. The latest version of Hermes – 'Hermes 2003' – is a global project management solution composed of three elements:

- A guide providing project managers and other staff with the necessary know-how to deliver projects successfully.
- Additional tools (electronic and/or paper-based) to implement the methodology.
- Knowledge dissemination, including information on the methodology and on previous cases.

On 13 June 2005, the new e-Government strategy has been presented, including an action plan for the further implementation of public e-services in Luxembourg: "e-Governance means much more than creating websites", commented Minister for the Civil Service and State Reform. In this respect, the new strategy and action plan make a distinction between three main categories of projects:

- Short term Internet projects, such as for example the creation of an online service for VAT returns or the development of an e-procurement project.

- Short term administrative management projects, such as the setting up of an integrated system for the management of housing grants.

- Medium and long term strategic projects, such as infrastructure, interoperability, and service integration projects, as well as initiatives for the organisational reform of public bodies.

2. Biometrics

Luxembourg is one of the 27 countries currently in the American Visa Waiver Programme included in the US-VISIT programme. Thus, it is required to hold computer-readable passports containing biometric identifiers that comply with the International Civil Aviation Organization standards.

In order to ensure EU-wide consistency, the European Commission presented on 18 February 2004 a proposal for a Regulation on standards for security features and biometrics in EU citizens' passports. According to this proposal, future passports issued by EU Member States should contain only one mandatory biometric identifier, the holder's facial image. However, fingerprints or other features could be added at the discretion of individual Member States.

Moreover, on June 2004 the G5 Ministers called for ever closer co-operation on policing, data sharing and border security in order to tackle international terrorism and organised crime. This includes the introduction of biometric passports for all EU citizens.

The General Affairs Council meeting in Brussels on 13/12/2004 adopted a regulation mandating the inclusion of both facial image and fingerprints in future passports and travel documents issued by EU Member States.

Malta

1. e-Government

a. Historical information

The Government published a White Paper describing its e-Government vision and strategy in October 2000. The Central Information Management Unit (CIMU) is in charge of ensuring the coordination of the initiative.

b. Developments

On 7 April 2003, the government officially launched the first set of m-Government services. Malta has indeed decided to integrate multi-channels delivery in its e-government strategy in order to adapt to the wider diffusion of mobile phones than of computers in the island. The services available to mobile users include:

- Notification of acknowledgements and status change of customer complaints
- Notifications of court deferrals
- Notifications for license-renewal to the holders of licences issued by the Trade Department, Malta Tourism Authority, Malta Maritime Authority and Public Transport Authority
- Notification of exams results for students.

Other developments are: online vehicle licensing, e-ID service, e-ID card, e-Procurement, migration to voice over IP, e-Application for passports.

2. Biometrics

In order to ensure EU-wide consistency, the European Commission presented on 18 February 2004 a proposal for a Regulation on standards for security features and biometrics in EU citizens' passports. According to this proposal, future passports issued by EU Member States should contain only one mandatory biometric identifier, the holder's facial image. However, fingerprints or other features could be added at the discretion of individual Member States.

Moreover, on June 2004 the G5 Ministers called for ever closer co-operation on policing, data sharing and border security in order to tackle international terrorism and organised crime. This includes the introduction of biometric passports for all EU citizens.

The General Affairs Council meeting in Brussels on 13/12/2004 adopted a regulation mandating the inclusion of both facial image and fingerprints in future passports and travel documents issued by EU Member States.

the Netherlands

1. e-Government

In the Netherlands, the development of the e-government has started as early as in 2002. It already includes: e-Signature, e-Reporting for crime, launch of an e-Government knowledge centre, e-Taxing, e-Voting in 2003, the creation of a unique identification number in 2004. And, in spite of previous studies saying that Dutch e-Government suffers of a lack of transparency and interactivity, a new study has shown in May 2005 that it is getting better. In addition, the Netherlands has organised the world's largest e-Voting experiment in 2005 also (with more than 2.2 million of voters).

2. Biometrics

a. Starting point

The Netherlands is one of the 27 countries currently in the American Visa Waiver Programme included in the US-VISIT programme. Thus, it is required to hold computer-readable passports containing biometric identifiers that comply with the International Civil Aviation Organization standards.

In order to ensure EU-wide consistency, the European Commission presented on 18 February 2004 a proposal for a Regulation on standards for security features and biometrics in EU citizens' passports. According to this proposal, future passports issued by EU Member States should contain only one mandatory biometric identifier, the holder's facial image. However, fingerprints or other features could be added at the discretion of individual Member States.

Moreover, on June 2004 the G5 Ministers called for ever closer co-operation on policing, data sharing and border security in order to tackle international terrorism and organised crime. This includes the introduction of biometric passports for all EU citizens.

The General Affairs Council meeting in Brussels on 13/12/2004 adopted a regulation mandating the inclusion of both facial image and fingerprints in future passports and travel documents issued by EU Member States.

b. Debate

According to Government Reform Minister the new Dutch biometric passports will be phased in after mid-2006 in order to meet the 28 August 2006 EU deadline.

c. Developments

In January 2004, the government was about to jump on the biometric bandwagon as it prepares to launch pilot tests of high-tech passports and ID cards in early 2004.

The pilots, to be carried out over a 6-month period in a number of local communities, should test the adequacy of the prototype documents. Both the new passport and the new ID card should feature facial and fingerprint digital scans as biometric indicators.

the Netherlands

In early June 2004, two Canadian companies were chosen by the Dutch Government to provide technology for the passport and ID card pilots. Bioscrypt should provide the fingerprint technology, while BioDentity should be supplying the face recognition system as well as the necessary border clearance technology to deliver fully operational kiosks and counter inspection systems.

Poland

1. e-Government

a. Historical information

In March 2003, the legal framework for the development of e-Government was formed by a series of laws passed in the previous few years and covering access to information, personal data protection, electronic provision of services, electronic payments, and electronic signature.

b. Developments

An e-Government portal providing centralised access to public administration information and services for both citizens and businesses should be created, as well as a nationwide network linking government departments, offices and agencies, and local government, which was due to be completed by the end of 2005. The development of a 'Multifunctional Personal Document' (MPD) that will act as an intelligent, PKI-ready smart card to replace the current plastic ID card was also in the pipeline.

Since that time, an e-Customs system has been created, as well as a wireless network in Slupsk, a new e-Government plan has been adopted for 2005-2006

2. Biometrics

In order to ensure EU-wide consistency, the European Commission presented on 18 February 2004 a proposal for a Regulation on standards for security features and biometrics in EU citizens' passports. According to this proposal, future passports issued by EU Member States should contain only one mandatory biometric identifier, the holder's facial image. However, fingerprints or other features could be added at the discretion of individual Member States.

Moreover, on June 2004 the G5 Ministers called for ever closer co-operation on policing, data sharing and border security in order to tackle international terrorism and organised crime. This includes the introduction of biometric passports for all EU citizens.

The General Affairs Council meeting in Brussels on 13/12/2004 adopted a regulation mandating the inclusion of both facial image and fingerprints in future passports and travel documents issued by EU Member States.

Portugal

1. e-Government

In 2003, Portugal launched an e-Declaration for VAT, an e-Procurement plan. In 2004, Portugal launched its new e-Government portal and tested e-Voting. In 2005, it introduced e-Medical Prescriptions and launched its e-Procurement portal. In addition, its e-Tax service has become popular.

2. Biometrics

a. Starting point

In order to ensure EU-wide consistency, the European Commission presented on 18 February 2004 a proposal for a Regulation on standards for security features and biometrics in EU citizens' passports. According to this proposal, future passports issued by EU Member States should contain only one mandatory biometric identifier, the holder's facial image. However, fingerprints or other features could be added at the discretion of individual Member States.

Moreover, on June 2004 the G5 Ministers called for ever closer co-operation on policing, data sharing and border security in order to tackle international terrorism and organised crime. This includes the introduction of biometric passports for all EU citizens.

The General Affairs Council meeting in Brussels on 13/12/2004 adopted a regulation mandating the inclusion of both facial image and fingerprints in future passports and travel documents issued by EU Member States.

b. Developments

Presented in January 2005, similar to a credit card in appearance, the future Portuguese ID card will feature a chip and a magnetic stripe storing personal information and biometric data. The government's goal is to create a more secure ID document, after the Brazilians experience.

In addition to fingerprints, the future electronic ID card might also include iris scans and/or other biometric identifiers. The current Portuguese national ID document already includes a fingerprint; however, it is not digitally stored but directly transferred to the card with black ink.

Slovakia

1. e-Government

a. Historical information

Concerning e-Government in Slovakia, the main actor is the Office of the Government, which oversees the eSlovakia initiative – a scheme launched in May 2002 to boost Internet access and use in the country. However, most e-Government developments are instigated on an ad-hoc basis by various government departments. The two main actors in public sector IT projects are the Ministry of Education, and the Ministry of Transport, Post and Telecommunications.

b. Developments

At the local level, a project to enable Slovakia's towns to deliver information and services online has been developed by the not-for-profit organisation eSlovensko. These information services are delivered through a central website (www.mesto.sk) providing structured access to 138 local authorities throughout the country.

In addition, a national public information portal Obcan.sk (Citizen.sk) was launched in April 2003. It was created with the support of private suppliers, including Microsoft, Siemens Business Services, and HP.

By the end of 2004, more than 300,000 drivers in Slovakia should carry forge-proof driving licenses, complying with the security requirements laid down by the European Union.

2. Biometrics

a. Starting point

In order to ensure EU-wide consistency, the European Commission presented on 18 February 2004 a proposal for a Regulation on standards for security features and biometrics in EU citizens' passports. According to this proposal, future passports issued by EU Member States should contain only one mandatory biometric identifier, the holder's facial image. However, fingerprints or other features could be added at the discretion of individual Member States.

Moreover, on June 2004 the G5 Ministers called for ever closer co-operation on policing, data sharing and border security in order to tackle international terrorism and organised crime. This includes the introduction of biometric passports for all EU citizens.

The General Affairs Council meeting in Brussels on 13/12/2004 adopted a regulation mandating the inclusion of both facial image and fingerprints in future passports and travel documents issued by EU Member States.

b. Developments

The €6 million project of new driving licenses was a first step towards the delivery of a new generation of ID and travel documents. Indeed, the IT infrastructure

used for its production should also be used to create high-tech ID cards and passports, which will most likely feature one or more biometric identifiers.

A similar solution was implemented by SBS in Bosnia-Herzegovina, where plastic driving licenses and ID cards – the latter including the holder's fingerprint stored in the form of a barcode – are already in use.

New passports by September 2006

In April 2005, the Slovak government has announced plans to start issuing biometric passports by 1 September 2006 and has already launched new passports having greater security features and being "biometric-ready".

According to Interior Minister, a digital facial image of the holder will be included starting in September 2006, while a fingerprint scan will also be added from March 2008.

The biometric passports will provide Slovakia with further arguments to negotiate visa-free travel to the United States for its citizens. Despite an official request by the European Commission in 2004, the US Administration has so far refused to extend its Visa-Waiver Program (VWP) to the new EU Member States. US policy is to assess VWP eligibility on a country-by-country basis, based on their rate of visa denials and their record of dealing with stolen passports. In March 2005, the US Department of State invited Ambassadors from Latvia, Lithuania, the Czech Republic, Hungary, Poland and Slovakia to discuss the initiatives that should be undertaken to allow for the introduction of "visa freedoms". Such visa freedoms could be granted by 2007 in return for a number of measures, including the adoption of more sophisticated and secure passports.

1. e-Government

a. Historical information

As early as in February 2001, Slovenia adopted a "Strategy of e-Commerce in Public Administration for the period from 2001 until 2004", and in January 2003, a new action plan in the field of e-Government.

b. Developments

In September 2003, Slovenia was considered very advanced in the use of IT. The Ministry of Information Society holds the political responsibility for the information society, including e-Government. However, at an operational level, the Government Centre for Informatics (GCI) is the body in charge of developing the country's e-Government infrastructure, and to support, control and coordinate government departments' ICT projects.

With this infrastructure in place, the Slovenian government has implemented a number of e-Government applications for internal use. In particular, cabinet sessions are now held electronically (e-Sessions). Henceforth, the priority of the Slovenian e-Government action plan consists in developing e-Services for citizens and businesses.

2. Biometrics

a. Starting point

Slovenia is one of the 27 countries currently in the American Visa Waiver Programme included in the US-VISIT programme. Thus, it is required to hold computer-readable passports containing biometric identifiers that comply with the International Civil Aviation Organization standards.

In order to ensure EU-wide consistency, the European Commission presented on 18 February 2004 a proposal for a Regulation on standards for security features and biometrics in EU citizens' passports. According to this proposal, future passports issued by EU Member States should contain only one mandatory biometric identifier, the holder's facial image. However, fingerprints or other features could be added at the discretion of individual Member States.

Moreover, on June 2004 the G5 Ministers called for ever closer co-operation on policing, data sharing and border security in order to tackle international terrorism and organised crime. This includes the introduction of biometric passports for all EU citizens.

The General Affairs Council meeting in Brussels on 13/12/2004 adopted a regulation mandating the inclusion of both facial image and fingerprints in future passports and travel documents issued by EU Member States.

b. Debate

In January 2004, the Slovenian Government announced it wanted to do everything in its power to start issuing biometric passports before the 26 October 2004 deadline set by the US authorities. A specific task force created in

September 2003 was analysing technological aspects and developing implementation strategies for the new high-tech passport.

“The main question in the production of biometric passports is the availability of contactless chips with enough memory, while interoperability issues also need to be sorted out”.

Spain

1. e-Government

a. Historical information

Spain doesn't seem to be one of the most advanced country in the field of e-Government. Thus, in April 2003, Emergia edited a study showing that most Spanish public sector websites were insufficiently accessible to users with disabilities.

But it's catching up: the government has launched a €84 million e-government plan for the next three years. And on the other hand, in the field of e-Taxing, Spain is the European champion with more than 14.5% of the declarations submitted electronically in 2004 (11.5% in the UK and less than 4% in France).

b. Developments

Spain doesn't seem to be one of the most advanced country in the field of e-Government. Thus, in April 2003, Emergia edited a study showing that most Spanish public sector websites were insufficiently accessible to users with disabilities.

But it's catching up: the government has launched a €84 million e-government plan for the next three years. And on the other hand, in the field of e-Taxing, Spain is the European champion with more than 14.5% of the declarations submitted electronically in 2004 (11.5% in the UK and less than 4% in France).

Moreover, the City of Barcelona has received the 'eCitizenship for All' award for its 'Citizen's Folder' service, which has been evaluated as a model for the re-engineering of local public administration.

Digitised archives, digitised property and company registries, e-Voting (e-Referendum in June 2004), e-ID card announced in May 2003, e-Signature approved in December 2003, etc… these are developments in the field of e-Government in Spain.

Despite of those, e-government services offered by the Spanish central administration are still insufficiently accessible, according to a recent survey commissioned by the Infoaccessibility Observatory of the organisation Disc@pnet.

2. Biometrics

a. Starting point

Spain is one of the 27 countries currently in the American Visa Waiver Programme included in the US-VISIT programme. Thus, it is required to hold computer-readable passports containing biometric identifiers that comply with the International Civil Aviation Organization standards.

In order to ensure EU-wide consistency, the European Commission presented on 18 February 2004 a proposal for a Regulation on standards for security features and biometrics in EU citizens' passports. According to this proposal, future passports issued by EU Member States should contain only one mandatory

biometric identifier, the holder's facial image. However, fingerprints or other features could be added at the discretion of individual Member States.

Moreover, on June 2004 the G5 Ministers called for ever closer co-operation on policing, data sharing and border security in order to tackle international terrorism and organised crime. This includes the introduction of biometric passports for all EU citizens.

The General Affairs Council meeting in Brussels on 13/12/2004 adopted a regulation mandating the inclusion of both facial image and fingerprints in future passports and travel documents issued by EU Member States.

b. Developments

The Spanish Council of Ministers approved on 13/02/2004 the creation and distribution to Spanish citizens of new electronic national ID cards containing a biometric identifier. Among other things, the new card should allow citizens to access sophisticated e-government services. The electronic ID cards, which will be identical to the current card in terms of size (similar to a credit card), will contain the following information stored in an embedded microchip: an electronic certificate to authenticate the identity of the cardholder; a certified digital signature, allowing the holder to sign electronically; keys for its use; a biometric identifier (fingerprint); a digitised photography of the holder; a digitised image of the holder's handwritten signature; all the data that is also printed on the card (date of birth, place of residence, etc.)

But, on December 2004, the government was planning to launch a pilot of its new e-ID card in early 2006, more than a year later than originally expected. According to the revised schedule, the countrywide distribution of the new biometric identity documents should start in late 2007 or early 2008.

Sweden

1. e-Government

In 2002, Sweden has put into place 24/7 agencies and has launched an e-Procurement service. In 2003, a study said Sweden was the information society world leader. In 2004, Swedish government launched an e-ID Card program, a biometric passport program, a new e-Government portal.

In March 2005, the use of e-Prescriptions has reached a level of more than a million (45% of prescriptions were sent electronically, up from 32% in September 2004 and 9% in November 2001). Over 2.1 million Swedish citizens used the e-Service offered by the National Tax Board to file their income tax returns this year, a two-fold increase over 2004.

2. Biometrics

a. Starting point

Sweden is one of the 27 countries currently in the American Visa Waiver Programme included in the US-VISIT programme. Thus, it is required to hold computer-readable passports containing biometric identifiers that comply with the International Civil Aviation Organization standards.

In order to ensure EU-wide consistency, the European Commission presented on 18 February 2004 a proposal for a Regulation on standards for security features and biometrics in EU citizens' passports. According to this proposal, future passports issued by EU Member States should contain only one mandatory biometric identifier, the holder's facial image. However, fingerprints or other features could be added at the discretion of individual Member States.

Moreover, on June 2004 the G5 Ministers called for ever closer co-operation on policing, data sharing and border security in order to tackle international terrorism and organised crime. This includes the introduction of biometric passports for all EU citizens.

The General Affairs Council meeting in Brussels on 13/12/2004 adopted a regulation mandating the inclusion of both facial image and fingerprints in future passports and travel documents issued by EU Member States.

b. Developments

In September 2004, Sweden announced it should start issuing its citizens with biometric passports in 2005. The new document should be consistent with the facial recognition standard of the ICAO and should fulfil the US VWP's requirements.

Finnish smart card and security printing company Setec – which currently supplies passports to Finland, Sweden, Norway and Lithuania – announced on 31/08/2004 that it had won an order from the Swedish Government to provide 5 million biometric passports over the next 5 years (a €100 million contract). In addition to the biometric passports, the Swedish authorities will start issuing electronic ID cards in October 2005 under a similar 5-year contract with Setec.

Sweden

The passports, should feature a biometric identifier (facial image) stored in a microchip. The Swedish authorities will first issue the new passports without the microchip, and start issuing the biometric passports in October 2005.

the United Kingdom

1. e-Government

a. Historical information

According to new research presented on 31 May 2005 the UK, with €21bn, represents almost a quarter of the total ICT spending by European governments.

b. Developments

The developments of e-Government in the UK are the followings: e-Procurement of non-medical supplies within the National Health Service, e-Voting, organisation of a G7 e-Summit and e-Signature in 2002; secure e-mail system for the public, launch of an "Online Nation" campaign by the Office of the e-Envoy, Online CAP payments system for farmers, multiplication by 5 of e-Voting use, e-Payment of social benefits in 2003, creation of e-Marketplaces to sell online services, etc.

2. Biometrics

a. Starting point

The UK is one of the 27 countries currently in the American Visa Waiver Programme included in the US-VISIT programme. Thus, it is required to hold computer-readable passports containing biometric identifiers that comply with the International Civil Aviation Organization standards.

In order to ensure EU-wide consistency, the European Commission presented on 18 February 2004 a proposal for a Regulation on standards for security features and biometrics in EU citizens' passports. According to this proposal, future passports issued by EU Member States should contain only one mandatory biometric identifier, the holder's facial image. However, fingerprints or other features could be added at the discretion of individual Member States.

Moreover, on June 2004 the G5 Ministers called for ever closer co-operation on policing, data sharing and border security in order to tackle international terrorism and organised crime. This includes the introduction of biometric passports for all EU citizens.

The General Affairs Council meeting in Brussels on 13/12/2004 adopted a regulation mandating the inclusion of both facial image and fingerprints in future passports and travel documents issued by EU Member States.

b. Debate

In favour of developing

On 20 December 2004, a Bill calling for the first ID cards to be issued in 2008 with biometric passports passed its first reading in the House of Commons with 385 votes in favour and 93 against.

On 28 June 2005 the House of Commons voted in favour of the ID Cards Bill by 314 to 283, with 20 Labour MPs rebelling against the government and joining the Conservatives and Liberal Democrats in opposing the ID scheme. The proposed legislation will now go to the House of Lords, where intense debate is expected.

Against developing

Before talking about including biometrics in its ID card, the UK had a debate on the introduction of such card. In December 2002, a first public meeting on the UK Government's proposed national identity card scheme resulted in a unanimous vote of no-confidence. The Government was criticised for not having engaged citizens in a national dialogue on the card. The Home Office said that the 1,500 responses received so far were split "two-to-one" in favour of the scheme.

Position of the government

The UK Home Secretary announced on 11/11/2003 that an ID card scheme would be phased in over several years. ID cards, however, will not be made compulsory before 2013 and only after a decision by the Cabinet and a vote in Parliament. This announcement followed the compromise reached by the cabinet on 06/11/2003, which delayed any decision on compulsion for years.

The detailed plans are not yet finalised but it is likely that:

- The card will contain basic personal details, including a unique number, which will appear on the face of the card.
- The card will feature a secure encrypted chip containing the holder's personal details in electronic format and a personal biometric identifier, which may consist in facial recognition, iris scans or fingerprints.
- ID cards will be linked to a new and secure national identity database that 'will not have details of religion, political beliefs, marital status or health records'.

On 22 July 2005, the Home Office responded to the alternative blueprint for e-ID cards proposed by the London School of Economics and Political Science (LSE). It said it would be less secure and more risky than the government plans.

c. Developments

On 29 April 2003, the UK Home Office announced that passports of airline passengers travelling to the UK will be screened upon departure with new hi-tech scanners able to instantly identify passengers posing a security risk. This new scheme should include the increased use of biometric technology.

According to the UK Passport Service's (UKPS) corporate business plan 2003-2008 published the same week, biometric chips could be included in all UK passports by 2005.

On 03/12/2003 the launch of a trial of biometric technology was announced. It was run by the UKPS and should test facial, iris and fingerprint recording and recognition. This trial was delayed to the beginning of May.

The UK Home Office announced on 15/06/2004 its intention to improve immigration control by rolling out a biometric identification system in a number of key airports across the country. Dubbed IRIS (for Iris Recognition Immigration

System), the system is based on iris recognition technology and is aimed at increasing security while speeding up immigration control procedures.

The first major output of the UK Government's e-Borders programme, IRIS will store and verify the iris patterns of specially selected groups of travellers. The scheme will build on the successful trial held at Heathrow Airport in 2002.

In April 2005, the government has plans to begin issuing biometric passports – including a microchip storing a digitised facial image of the holder – before the end of the year. Fingerprint scans could then be added to the chip in 2006, echoing a EU decision to include fingerprints as a second biometric identifier in passports that the UK is not bound to follow as it retains its "opt-out" over such arrangements.

Because UK passports are issued by Royal Prerogative, changes to passport formats and features do not require the passing of new legislation. And because no-one is forced to have a passport, the government is considering the possibility of going ahead with fingerprinting regardless of what may happen with current ID card plans.

On 25/07/2005, the UK Foreign & Commonwealth Office (FCO) announced that starting from January 2006, British passports issued outside the UK will include facial recognition and individual demographic data – such as name, age and birthplace – stored in a microchip.

Resource Outline
European Biometrics Portal
As Of November 22, 2005

European Biometrics Portal Resources

The following is the present outline of resource topics at the EBP website. When a resource logically touches upon more than one topic, it appears under each of the relevant topic headings. Are the topics adequate? Should there be more or is it too detailed? Most of the topics do not yet contain any data. Do you propose any historical or current material for inclusion under any of these topics? Would you be willing to write an original paper or commentary for inclusion? If you have any proposals or questions please go to the Contacts page of the EBP website.

- Applications
  - Identity Documents
    - Citizen ID
      - Benefits - Healthcare, Social Services, etc.
      - Driver's License
      - National
      - Travel Documents: Passports, Visas, etc
      - Voter
    - Consumer ID
    - Corporate ID
    - Government ID
      - Civil Servants
      - Military
  - Logical Access
    - PCs & Networks
    - Personal Devices - Mobile Phones, PDAs, Jump Drive
    - Records Access: Health, Financial, etc.
    - Transactions: Financial & Information
  - Monitoring
    - Prisoner & Parolee
  - Physical Access
    - Devices: Mobile Phones, Laptops, PDAs
    - Facilities, Secure Areas
    - Secure Access: Weapons, Drugs, Vaults, Safes
  - Surveillance
    - Cooperative
    - Uncooperative
  - Time & Attendance
- Biometrics Technology
  - AFIS
    - Algorithms
    - Scanners/Readers

- Facial Recognition
  - 2D
  - 2D & 3D Fusion
  - 3D
    - Hierarchical Graph Matching
- Fingerscan
  - Algorithms
    - Minutia
    - Pattern
  - Scanners/Readers
  - Sensors
    - Optical
    - Silicon
    - Ultrasound
- Hand Recognition
- Iris Recognition
  - Algorithms
  - Cameras
- Multimodal Biometrics
- Other Biometrics
  - Ear
  - Gait
  - Odor
  - Retina
- Signature Recognition
- Vein Pattern Recognition
- Voice Recognition

- Interoperability & Standards
  - Established Standards
    - Application Based
    - Technology Based
    - Vertical Market Based
  - Interoperability Issues
  - Proposed Standards
  - Working Groups
- Market Development
  - Market Research
    - Forecasts and Sizing
    - Opportunity Analysis
    - Surveys and Studies
  - Vertical Markets
    - Commercial
      - Financial Services
      - Healthcare

        - Manufacturing
        - Other
        - Retail
        - Transportation
    - Public Sector
        - Border Control
        - eGovernment
        - Electronic ID
        - Law Enforcement
        - Other
    - Situation in EU Member States
- Policy, Privacy and legal concerns
    - Government policies
    - Legal issues
    - Privacy concerns
    - Societal Implications
- Related Issues
    - Identity Management
    - Identity Theft & Fraud
    - Immigration and Border Control
    - Legislative and Regulatory Compliance
    - Secure Computing
    - Terrorism
- Solutions Development
    - Development Tools
    - Enrollment
    - Horizontal Solutions
        - Mobile Biometrics
            - Personal Mobile Devices
            - Ruggedized Devices
    - Human Factors Engineering
        - Products
        - Systems
    - Integration With Other Technologies
        - Data Storage, Management & Searching
        - Digital Imaging Devices
        - Encryption
        - Machine Readable Travel Documents
        - Network Security
        - Other
        - Pattern Marching and Recognition Algorithms
        - PKI
        - RFID
        - Secure Computing Platforms

Resource Outline

European Biometrics Portal

As Of November 22, 2005

        - Secure Wireless Transmission
        - Smart Cards
        - Tokens
- Technology Testing
    - Benchmarks
    - Methodologies
    - Published Test Results
        - Application Based
        - Technology Based
        - Vertical Market Based

Papers and Commentary Posted To The Resources Section Of The European Biometrics Portal As Of November 22, 2005

The following documents, and any that are subsequently posted, can be found at the EBP website, resources section.

Each title here is linked directly to its associated article as it appears or is referenced at the EBP website.

01. The future of identity: Biometrics solutions to enhance the performance of businesses and governments (Accenture Technology Labs, **2005**) – Slides in PDF Format (95k)

02. SYNeRGY – The IDABC Quarterly (**July 2005**) (1.2mb)

TOWARDS INTEROPERABLE EIDS FOR EUROPEAN CITIZENS (page 3)
Electronic identities are fundamental for secure access to and convenient use of eGovernment services in Europe. A number of actions being taken by the IDABC programme are driving the eID agenda forward.

IDENTITY MANAGEMENT ADVANCES ON MULTIPLE FRONTS (page 5)
Work on eID at European level takes a number of forms, including research funded under the Framework Programmes for Research and Development, studies and surveys and good practice exchange.

EID CASE STUDY: AUSTRIA (page 6)
Austria's electronic identity scheme has attracted interest from across Europe, in particular because it facilitates integration of foreign eIDs into Austrian eGovernment processes

EID IN ACTION: ESTONIA . (page 8)
Estonia's electronic identity card has been taken up widely across the country and is usable in multiple government and private sector applications.

FEDERATED EID (page 9)
The Liberty Alliance is developing a federated identity standard based on open technology specifications with in-built privacy controls, and is attracting increasing interest from European administrations.

ENSURING PRIVACY (page 11)
Electronic identity schemes must take full account of European privacy and data protection legislation.

INTERVIEW: PROFESSOR BART PRENEEL (page 12}

Professor in the Computer Security and Industrial Cryptography research group at Belgium's Katholieke Universiteit Leuven, Bart Preneel is well placed to give an overview of the state of eID in Europe

THE PORVOO GROUP: PROMOTING EID INTEROPERABILITY (page 14) The Porvoo Group meets twice yearly to consider technical aspects of electronic identity and the current state of play. Most recently, the group met in Reykjavik, Iceland, at the end of May 2005.

03. Biometrics Deployment Of Machine Readable Travel Documents - ICAO TAG MRTD/NTWG - TECHNICAL REPORT - Version 2.0 - Development and Specification of - Globally Interoperable Biometric Standards for - Machine Assisted Identity Confirmation using Machine Readable Travel Documents (**May 21, 2004**) (PDF – 60 pages – 496k)

04. MACHINE READABLE TRAVEL DOCUMENTS - TECHNICAL REPORT For Machine Readable Travel Documents Offering ICC Read-Only Access - Version - 1.1 – (**October 01, 2004**) - Published By Authority Of The Secretary General INTERNATIONAL CIVIL AVIATION ORGANIZATION (57pp – 410k)

05. Machine Readable Travel Documents – Supplement 9303 - Version: 2005-4 V3.0 (**June 12, 2005**) Published By Authority Of The Secretary General - International Civil Aviation Organization (33pp – 17K)

06. ANNEX I - Use of Contactless Integrated Circuits In Machine Readable Travel Documents (Version 4.0 - **5 May 2004**) (27pp - 225k)

07. Case Study – Registered Traveler – Enabling Air Travel in the 21st Century (Daon, **2005**) (2pp – 279k)

08. Machine Readable Travel Documents Technical Report – Development Of A Logical Data Structure – LDS– For Optional Capacity Expansion Technologies Revision –1.7 - Published By Authority Of The Secretary General International Civil Aviation Organization (**18 May 2005**) (92pp – 684k)

09. Evaluation Report - Biometrics Trial - 2b or not 2b (**2005**) - Ministry of the Interior and Kingdom Relations – The Netherlands (69pp – 726k)

10. The Security of RFID Passports (**November 15, 2005**) by Bruce Schneier, Founder and CTO, Counterpane Internet Security, Inc. (2pp – 29k)

11. Case Study – Transportation Worker Identification Credential (TWIC) - Secure Employee Credentialing Across the US Transportation System – (Daon, **2005**) (2pp – 321k)

12. Case Study – Employee Credentialing - Delivering Secure Access Control in London City Airport (Daon, **2005**) (2pp 315k)

13. Biometrics and Security (BioSec) - Preliminary summary of BioSec security scenarios (based on D.4.1, D4.3, D4.4 of BioSec) – Version 1.0 - Ministry of the Interior Finland (Mona Hirvonen) (**21 October 2005**) (12pp – 309k)

14. Case Study – Consumer Deployment - Biometric access to locker and treatment areas of beauty/health facility (ID-Link Systems, Undated)(**2005**) (2pp – 949k)

15. Strategies and Benefits of Fusion of 2D and 3D Face Recognition by Michael H¨usken, Michael Brauckmann, Stefan Gehlen (Viasage Technology, AG) and Christoph von der Malsburg (Institut f¨ur Neuroinformatik) Ruhr-Universit¨at Bochum - IEEE Workshop on the Face Recognition Grand Challenge Experiments (**21 June 2005**) (8pp – 454k)

16. Biometrics and Security (BioSec) - 3D & colour camera for face and hand biometrics by Claudio Laloni and Frank Forster (both of Siemens AG) (**December 22, 2004**) (13pp – 5.7mg)

17. Issues related to the acquisition and use of the BioSec Multimodal Biometric Database (BIOSEC D5.7) by Julian Fierrez-Aguilar (UPM), Javier Ortega-Garcia (UPM), Jaime Lopez-Peñalba (UPM); with contributions from: Els Kindt (KULRD), Jani Lylykangas (UTA), and Kimmo Vuorinen (UTA) (**13 Oct 2005**) [Note: Only an abstract is posted] (1pp - 38k)

18. Fusion Comes in from the Cold - A Consult Hyperion white paper - by Dr. Lee Howells (**October 2005**) – (14pp. – 455k)

19. SentryCom VoiceShield® Functional Test – The Standards Institution of Israel (**January 2002**) (12pp – 207k)

20. Biometric Data Interchange Formats — Part 5: Face Image Data - ISO/IEC JTC 1/SC 37 N 506 - (**March 22, 2004**) (52pp – 1.5mg)

21. Biometrics Comes of Age – From Core Technology to Identification Solutions (Digital ID World, **Jan-Feb., 2005**) by C. Maxine Most (4pp – 156k)

22. PART 1: Identification Roadmap, 2005 – 2020 - Biometrics Technology Roadmap for Person Identification within the Police Service (Police IT Organizatgion [PITO], **2005**) (61pp – 1.6 mg)

23. Leveraging Biometric Technology for Border Control, Immigration Management and the Transportation Industry. A Short White Paper (Daon, **September 2005**) (12pp – 290k)

24. Biometrics and Border Control – Beyond US Visit by C. Maxine Most (Digital ID World, **Sept-Oct 2004**) (4pp – 172k)

25. Biometrics at the Frontiers: Assessing the Impact on Society - For the European Parliament Committee on Citizens' Freedoms and Rights, Justice and Home Affairs (LIBE) (**2005**) - European Commission Joint Research Centre (DG JRC)**,** Institute for Prospective Technological Studies (166pp – 2.6mg)

26. Biometrics Institute (Australia) - BIOMETRICS PRIVACY CODE - STATEMENT OF CONSULTATIONS - Revised, **June 2005** (7pp – 85k)

Biometrics Institute - Privacy Code - Revised – (**30 June 2005**)

27. Biometrics: protecting your privacy and identity (Daon, **2003**) (7pp – 199k)

28. Towards Privacy Enhancing Applications by C. Maxine Most (Digital ID World, **June-July 2004**) (2pp – 98k)

29. Identity Management in the 21st Century - Julian Ashbourn (**June 2005**) (5pp – 41k)

30. Introduction of a Multi-Modular Acceptance and Usability Questionnaire – Version 1.2 (**June 14, 2005**, BioSec Consortium) by Heide Troitzsch (University of Cologne), Felix Eschenburg (University of Cologne), Gary Bente (University of Cologne), Nicole Krämer (University of Cologne), Jani Lylykangas (University of Tampere), Kimmo Vuorinen (University of Tampere), Veikko Surakka (University of Tampere) (92pp - 863k)

31. Report on Results of First Phase Usability Testing and Guidelines for Developers – Version 1.01 (**Dec 14, 2004**) by Heide Troitzsch (University of

Cologne), Felix Eschenburg (University of Cologne), Gary Bente (University of Cologne), Nicole Krämer (University of Cologne), Jani Lylykangas (University of Tampere), Kimmo Vuorinen (University of Tampere), Veikko Surakka (University of Tampere) (97pp – 990k)

32. Identity Linkage and "True Compliance" by C. Maxine Most (Digital ID World, **April-May 2005**) (3pp – 109k)

33. Taxonomy of Security (**2004**) Oriana Y. GONZALEZ-CASTILLO, Fraunhofer-IGD and Technical University Darmstadt (6pp – 279k)

34. Working with the real world by Julian Ashbourn (**2005**) (2pp – 32k)

35. Identity Search Challenges - ELISE has the answer - – (**June 20, 2005**) - WCC Services US Inc.(8pp 690k)

36. ECRYPT Yearly Report on Algorithms and Keysizes (2004) version 1.1 (**March 17, 2005**) by European Network of Excellence in Cryptology – Editors Christian Gehrmann and Mats NÄaslund (ERICS) Contributors Steve Babbage (VOD), Dario Catalano (ENS), Louis Granboulan (ENS), Arjen Lenstra (TUE), Christof Paar (RUB), Jan Pelzl (RUB), Thomas Pornin (Cryptolog), Bart Preneel (KUL), Matt Robshaw (RHUL) Andy Rupp (RUB), Nigel Smart (BRIS), Michael Ward (MasterCard) (80 pp – 368k)

37. Recent Collision Attacks on Hash Functions: ECRYPT Position Paper by European Network of Excellence in Cryptology – version 1.1 (**February 17, 2005**) (11pp – 152k)

38. Machine Readable Travel Documents – Technical Report - PKI For Machine Readable Travel Documents Offering ICC Read-Only Access - Version - 1.1 (**Oct 1, 2004**) - Published By Authority Of The Secretary General - INTERNATIONAL CIVIL AVIATION ORGANIZATION (57pp – 410k)

39. Biometrics and PKI Based Digital Signatures – A Short White Paper (Daon, **2003**) (8pp – 154k)

40. BIOSEC – Standard Format for Planning, Documenting, Describing and Reporting the Results – Biometrics and Security Project (**June 30, 2004**) by Dario Maio (UNIBO), Davide Maltoni (UNIBO), Raffaele Cappelli (UNIBO), Beatrice Passolini (UNIBO) and Anastasios Tefas (AUTH) (39pp 366k)

41. Multimodal Biometrics for Identity Documents (MBioID): State-of-the-Art by Dessimoz Damien, Richiardi Jonas, Champod Christophe, Drygajlo Andrzej (**23 Sept 2005**) [Abstract Only]

42. Biometrics Guide Germany [Abstract Only]

43. Summary of legal data protection requirements for the processing of biometric data by Prof. Jos Dumortier, Katholieke Universiteit Leuven, Els Kindt, Katholieke Universiteit Leuven (**Oct 27, 2005**) [Abstract Only]

44. European Biometrics Portal Publisher's Guide (**2005**) (9pp – 615k)