



EUROSMART

The Voice of the Smart Security Industry



Landscape of eID in Europe in 2013

July 2013

Eurosmart White Paper

Contents

Executive Summary	3
1. Purpose of the document	3
2. EU regulation	3
3. EU Member States identification policies	4
3.1. National ID cards	4
3.3. Photo printed on the card	4
3.4. Travel function with the card	4
3.5. Biometric data stored in the card	5
3.6. Card lifetime	5
3.7. Card fee	5
3.8. e-services with the card (in the public and private domain)	6
3.9. Mobile application and service	6
3.10. e-Signature	6
3.11. Technology platform	6
4. EU Digital Identity	7
5. National profiles on eIAS	7

Executive Summary

In 1998, the first electronic ID document in the public domain was launched in Europe. In 2010, the EU Commission published the roadmap of the Digital Agenda for Europe and the roadmap for a single market, which should be in place by 2015. In June 2012, the European Commission published the proposal for a regulation on electronic identification as a cornerstone for the creation of the European single market. This white paper reviews all 16 existing electronic identity programs based on two factor authentication and analyses mainstream ideas in electronic identification, authentication and signature and the related services. A position paper with the forecast should be available by 2nd half of 2013.

1. Purpose of the document

In March 2011, EUROSMART published a position paper on “Generic ID” in Europe. The document gave a high level overview on programs regarding electronic ID-documents from the European Commission, as well as from Member States of the EU.

On 4 June 2012, the European Commission published a draft regulation on electronic identification and trusted services for electronic transactions in the EU internal market, called the eIDAS regulation. Beside electronic identification and electronic signature, this regulation also covers electronic seals, electronic documents, electronic time stamps and electronic transactions. This regulation is a key pillar to create an EU single market by 2015.

This document aims to give an overview of 16 electronic identification programs in Europe, based on 2-factor authentication with a secure token. As in many cases in the EU, this electronic identification is based on the support of an electronic document, and the summary also compares them in terms of some of their basic criteria. This overview should be helpful for members of the EU Council, the European Commission and the European Parliament.

EUROSMART will prepare a position paper on this EU regulation in an additional document in the second half of 2013.

2. EU regulation

Three years ago, on 3 March 2010, the European Commission published the strategy for intelligent, sustainable and inclusive growth in Europe (COM(2010)2020) to overcome the economic crisis. On 19 May 2010, the European Commission displayed the milestone plan for the EU internal market in 2015 (COM (2010)245). At this time, the first information of the upcoming EU regulation on electronic identification and trusted services for the electronic transactions was written. On 15 December 2010, the European Commission presented its eGovernment action plan 2011 – 2015 (COM(2010)743) to the Council. An additional notice on the upcoming regulation on electronic identification and trusted services for the electronic transactions was named. On 13 April 2011, the European Commission published 12 levers to boost growth and trust in Europe. The upcoming regulation on electronic identification and trusted services for the electronic transactions was part of this document. On 12 October 2011, the Commission outlined the roadmap for stability and growth in the document COM(2011)669. An additional remark was written on the new regulation on electronic identification and trusted services for electronic transactions. On 4 June 2012, the European Commission published the draft regulation on electronic identification and trusted services for electronic transactions. Since June 2012, three EU Council working groups have been working on the published draft – namely working group 9 (eID/e-Signature), working group 14 (eHealth) and working group 29 (data protection of personal data).

3. EU Member States identification policies

3.1. National ID cards

Five kinds of national policies are known on ID documents, i.e.:

- Member states with **no** ID document in the public domain in use; example UK, since 1951.
- Member states with ID documents as **visible documents** in the public domain in use as a **voluntary** document; example France.
- Member states with ID documents as **visible documents** in the public domain in use as a **mandatory** document, example Italy.
- Member states with ID documents as **electronic documents** in the public domain in use as a **voluntary** document, example Sweden, since 2005.
- Member states with ID documents as **electronic documents** in the public domain in use as a **mandatory** document, example Belgium, since 2004.

Conclusion: EU Member States have a broad range of policies on ID documents. ID documents are mandatory in 8 EU Member States.

3.2. Minimum age of the citizens who can get ID documents

Different policies are in place regarding the minimum age limit to get an ID card. Examples are

- Germany: from 16 years
- Belgium: from 14 years
- Austria: below 12 years

Conclusion: Member States have different policies on the minimum age to get an ID document.

3.3. Photo printed on the card

Most states that issue ID cards use printed photos on the card. Italy and Austria are the only states to use ID without a photo of the cardholder.

Conclusion: Having a photo of the cardholder printed on the ID card is a mainstream policy in Europe.

3.4. Travel function with the card

Three kinds of policy are in use in EU Member States, i.e.:

- ID card printed with **neither MRZ** and **nor ICAO** biometric data embedded in a contactless chip; example Italy, CIE, since 2006.
- ID card printed with **MRZ** but **no ICAO** biometric data embedded in a contactless chip; example: Portugal, since 2007.

- ID card printed with both **MRZ** and **ICAO** biometric data embedded in a contactless chip; example Sweden, since 2005.

Conclusion: EU Member States follow different policies along travel function on ID documents.

Comment: There is a trend towards contactless ICAO-compatible functionality for ID documents.

3.5. Biometric data stored in the card

Six kinds of policy are in use in EU Member States, i.e.:

- **No biometric** data is stored on ID card; example: Austria.
- **Face photo** is stored in a chip embedded in the card; example: Sweden, since 2005.
- **Face photo** and **two rolled fingerprints** are stored in a chip embedded in the card; example: Spain, since 2006.
- **Face photo** and **two finger images** are stored in a chip embedded in the card; example The Netherlands, since 2009.
- **Face photo** and **two finger prints templates** are stored in a chip embedded in the card; example: Portugal, since 2007.
- **Face photo** and **ten finger prints images** are stored in a chip (partial) and on a laser strip; example: Italy, CIE, since 2006.

Conclusion: EU Member States have a broad range of policies on biometric data in ID documents.

3.6. Card lifetime

Three kinds of policies on card lifetimes are in force, i.e.:

- Validity of the ID document can be **more than 10 years**; validity can be extended with a stamp in the application office of the city hall; example: Italy, paper ID document.
- Validity is limited to **10 years**; example: Germany, Spain, Portugal, Belgium, Sweden, Netherlands, Estonia etc.
- Validity is limited to **5 years**; example: Belgium.

Conclusion: A typical ID card lifetime is defined for 10 years.

3.7. Card fee

Two kinds of policies on the fee for the ID-card are in force, i.e.:

- ID document is free of charge; example: Poland
- ID document is available for a fee; example: Germany, 28,80 €.

Comment: The amount of the card fee can vary over a broad range, from free of charge up to 29 € for the FINID in Finland.

Conclusion: EU Member States follow different policies on the fee for ID documents.

3.8. e-services with the card (in the public and private domain)

Four policies on e-services are in use in EU Member States, i.e.:

- e-service with 2-factor authentication based on secure token is **not in use** ; example: UK
- e-service with 2-factor authentication based on secure token is **in use**, but **only in dedicated government domains**; example: Portugal, since 2007.
- e-service with 2-factor authentication based on secure token is **in use** for **all kind of government services** but **not for non-public services**; example: Belgium, since 2004.
- e-service with 2-factor authentication based on secure token is **in use** for **all kind of public and non-public services**; example: Germany, since CY2010.

Conclusion: EU Member States follow different policies on e-services.

3.9. Mobile application and service

Two kinds of policies on mobile application and services are in use in EU Member States, namely:

- Mobile services for electronic identification **in use**; example: Estonia, since 2003.
- Mobile services for electronic identification **not in use**; example: Belgium, since 2004.

Conclusion: Most of the existing national eID programs do not use a mobile application.

3.10. e-Signature

Two kinds of policies on electronic signature are in use, namely:

- ID document supports e-signature service; **citizen can decide to use and pay** for it; Example: Finland, since 1998.
- ID document has a **mandatory** e-signature on the card; Example: Estonia, since 2002.

Conclusion: The mainstream policy in Europe is to offer e-signature service with a secure token on a voluntary basis.

3.11. Technology platform

All national ID cards issued in EU Member States are based on secure elements, which are security ICs with dedicated software, to store citizen data including biometric data and cryptographic keys. In addition to this, only 3 EU Member States (Austria, Estonia and Sweden) offer supplemental and optional internet-based & software-based identification schemes for limited usage scenarios, e.g. digital signature. As yet, no EU Member States have implemented a purely internet-based & software-based identification system for its citizens.

Conclusion: It is a mainstream policy in Europe to mandate secure elements as an electronic technology platform for national ID cards.

4. EU Digital Identity

As shown in chapter 3, Member States have built their digital identification solution on the use of an electronic ID document. This principle is rejected in some countries. Others consider that the ID documents shall not be the sole support of digital identities. There is a sustained growth of the digital economy, despite the lack of secured digital identities, but the growth of fraud is increasing 3 times faster.

The future Eurosmart position paper that will be published in the second half of this year will take into consideration the need to better protect digital identity, personal data and privacy. We will also analyse the various market opportunities in the light of the future eIDAS regulation.

5. National profiles on eIAS

AUSTRIA



- Started issuing: **2004**
- Issued volume (end of 2012): **9 Million**
- Population: **9 Million**
- Biometric data: **no**
- e-Services: **eGov-Service, eHealth, eBusiness**
- e-Signature: **yes**, voluntary
- Mobile ID : **yes**, optional
- Travel function: **no**
- Card interface: **contact-based**
- NVM size: **32k EEPROM** (Native OS)
- Comments: All citizens from the age of 16 and older have this card; Fee € 10; 10 year lifetime; no face photo; 2nd generation of this document was tendered in 2013



BELGIUM



- Started issuing: 2003
- Issued volume (end of 2012): 10 million
- Population: 11 million
- Biometric data: no
- e-Services: eGov-Service, eHealth-Service, e-Business
- e-Signature: yes; voluntary
- Mobile ID : not in use
- Travel function: no
- Card interface: contact-based
- NVM size: 32k EEPROM (Java)
- Comments: all citizens from the age of 14 and older have this card;
- Fee € 10; 10 year lifetime



CZECH REPUBLIC



- Started issuing: 2012
- Issued volume (end of 2012): < 1 Million
- Population: 11 Million
- Biometric data: yes (ICAO Face)
- e-Services: eGov-Service; eID-Card is voluntary
- e-Signature: yes, voluntary
- Mobile ID : not in use
- Travel function: no
- Card interface: contact-base
- NVM size: 32k EEPROM (Native OS, Java)
- Comments: 10 year lifetime,
- One application standard: European Citizen Card (CEN TC 224) and travel document (ICAO 9303)



ESTONIA



- Started issuing: 2003
- Issued volume (end of 2012): 1,3 Million
- Population: 1,3 Million
- Biometric data: no
- e-Services: eGov-Service, eBusiness
- e-Signature: yes; mandatory
- Mobile ID : in use
- Travel function: no
- Card interface: contact-based
- NVM size: 32k EEPROM (Java)
- Comments: Estonia is the only state in Europe with mandatory e-signature; Fee EEK 150; 10 year lifetime



FINLAND



- Started issuing: 1st generation 1998, 2nd generation 2002
- Issued volume (end of 2012): 2.5 million
- Population: 5 million
- Biometric data: face data
- e-Services: eGov-Service, e-Signature-Service, eBanking-Service
- e-Signature: yes; voluntary
- Mobile ID : not in use
- Travel function: no
- Card interface: contact-based
- NVM size: 32k EEPROM (Native OS)
- Comments: eID Card is voluntary;
- Fee: € 29, 10 year lifetime, no application standards



GERMANY



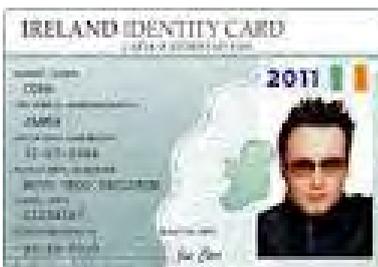
- Started issuing: 2010
- Issued volume (end of 2012): 20 million
- Population: 80 million
- Biometric data: yes (Face, ICAO, mandatory; 2 Fingerprints, ICAO, voluntary)
- e-Services: eGov-Service, eBusiness-Service
- e-Signature: yes, voluntary
- Mobile ID : in test phase
- Travel function: (not ICAO compliant)
- Card interface: contactless
- NVM size: 128k EEPROM (Native OS)
- Comments: 10 year lifetime; Fee € 28.80
- Application standard: European Citizen Card (CEN TC 224),
- Middleware (ISO 24727);



IRELAND



- Start issuing: 2011 (March)
- Issued volume (end of 2011): < 1 million
- Population: 6 million
- Biometric data: no
- e-Services: eGov-Service, eSocial, ePension, eTax
- e-Signature: yes, voluntary
- Mobile ID : not in use
- Travel function: no
- Card interface: contact-based
- NVM size: 32k EEPROM (Native OS)
- Comments: 10 years lifetime,



ITALY



- Started issuing: 2006
- Issued volume (end of 2011): 20 million (CNS); 2 million (CIE)
- Population: 60 million
- Biometric data: yes, face and 10 Fingerprints (national eID-Card: CIE)
- e-Services: eGov-Service, eHealth, eTicketing (e-Service Card: CNS)
- e-Signature: yes, voluntary (e-Service Card: CNS)
- Mobile ID : not in use
- Travel function: no
- Card interface: contact-based
- NVM-Size: 32k EEPROM (Native OS)
- Comments: Italy have the largest program in use in 2012;
- 2 different cards: CIE and CNS; Fee 20€: CIE and 25€: CNS;
- 10 year lifetime CIE, 5 year lifetime CNS;
- Biometric data are stored on chip (face photo) and on laser strip (face, 10 fingerprints);
- Since 2012 the 2G CNS is available; 2G covers the ticketing function;



LITHUANIA



- Start issuing: 2009
- Issued volume (end of 2012): 1 million
- Population: 3.2 million
- Biometric data: yes (Face, ICAO)
- e-Services: eGov-Service
- e-Signature: yes, voluntary
- Mobile ID : not in use
- Travel function: yes (ICAO BAC)
- Card interface: contact-base, contactless (hybrid)
- NVM size: 2 x 32k EEPROM (Native OS, Java)
- Comments: 10 year lifetime
- Two application standards: European Citizen Card (CEN TC 224), travel document (ICAO 9303)



MONACO



- Started issuing: 2009
- Issued volume (end of 2012): <100.000
- Population: 35.000
- Biometric Data: yes (Face, ICAO)
- e-Services: eGov-Service
- e-Signature: yes, voluntary
- Mobile ID : not in use
- Travel function: yes (ICAO BAC)
- Card interface: contact-based, contactless (hybrid)
- NVM size: 2 x 32k EEPROM (Native OS, Java)
- Comments: 10 year lifetime
- Two application standards: European Citizen Card (CEN TC 224), travel document (ICAO 9303)



PORTUGAL



- Started issuing: 2007
- Issued volume (end of 2012): 7 million
- Population: 11 million
- Biometric data: yes (Fingerprint, minutiae)
- e-Services: eGov-Service, eHealth, eSocial, eTax, ePension
- e-Signature: yes, voluntary
- Mobile ID : not in use
- Travel function: no
- Card interface: contact-based
- NVM size: 64k EEPROM (Java)
- Comments: eID Card is voluntary; 10 year lifetime
- One application standard: European Citizen Card



SPAIN



- Started issuing: 2006
- Issued volume (end of 2012): 34 million
- Population: 46 million
- Biometric data: yes, face and 2 fingerprints (rolled finger)
- e-Services: eGov-Service, eBanking Service
- e-Signature: yes, voluntary
- Mobile ID : not in use
- Travel Function: no
- Card interface: contact-based
- NVM size: 32k EEPROM (Native OS)
- Comments: 10 year lifetime DNI, Fee € 10.40 (2013)



SERBIA



- Started issuing: 2007
- Issued volume (end of 2012): 2.5 million
- Population: 7 million
- Biometric data: no
- e-Services: eGov-Service
- e-Signature: yes, voluntary
- Mobile ID : not in use
- Travel function: no
- Card interface: contact-based
- NVM size: 32k EEPROM (Native OS, Java)
- Comments: eID Card is voluntary; 10 year lifetime



SWEDEN



- Started issuing: 2005
- Issued volume (end of 2012): 1.5 million
- Population: 10 million
- Biometric data: yes (ICAO, Face)
- e-Services: eGov-Service, eBusiness
- e-Signature: yes, voluntary
- Mobile ID : not in use
- Travel function: yes (ICAO, BAC)
- Card interface: contact-based, contactless (hybrid)
- NVM size: 2 x 32k EEPROM (Native OS, Java)
- Comments: : ID/eID card is voluntary; Fee SKR 400; 10 year lifetime;
- Two application standards: European Citizen Card (CEN TC 224), travel document (ICAO 9303)



THE NETHERLANDS



- Started issuing: 2006
- Issued volume (end of 2012): 4 million
- Population: 17 million
- Biometric data: yes (Face, ICAO, since 2006; 2 fingerprints, ICAO, since 2009)
- e-Services: no
- e-Signature: no
- Mobile ID : not in use
- Travel function: yes (ICAO BAC and ICAO EAC)
- Card interface: contactless
- NVM-Size: 1G=32k, 2G=64k EEPROM (Java)
- Comments: 10 year lifetime
- One application standard: Travel Document (ICAO)



5. Glossary

2G	2nd Generation
BAC	Basic Access Control
CEN TC	Comité Européen de Normalisation Technical Committee
CIE	Carta Identita Electronica
CNS	Carta Nazionale Servizi
CY	Calendar Year
DNle	Documento Nacional de Identidad, electronic
EAC	Extended Access Control
EC	European Commission
eIAS/eIDAS	electronic Identification, Authentication, Signature
eID	electronic Identity
EU	European Union
FINID	Finland ID
IAS	Identification, Authentication, Signature
ICAO	International Civil Aviation Organization
ID	Identity
ISO	International Standardization Organization
MRZ	Machine Readable Zone
MS	Member States
NVM	Non Volatile Memory
OS	Operation System
SKR	Swedish Kronas

EOF

Eurosmart is an international non-profit organisation located in Brussels which represents the Smart Security Industry for multi-sector applications. Since it was established in 1995, the association has been committed to expanding the world's Smart Secure Devices market, promoting Smart Security standards and continuously improving quality security applications and services.

Eurosmart members are suppliers and manufacturers of smart cards, semiconductors, terminals, equipment and technology for Smart Secure Devices, system integrators, application developers, issuers, associations, laboratories and independent experts. They work in dedicated working groups (communication, marketing, security, electronic identity, new form factors, and prospect emerging markets).

Eurosmart is acknowledged as representing "the Voice of the Smart Security Industry" and is largely involved in political and technical initiatives as well as research and development projects on European and international levels.

For more information, please visit www.eurosmart.com



Contact us !

EUROSMART

Rue du Luxembourg 19-21

B-1000 Brussels

Tel. (+32) 2 506 88 38

Fax. (+32) 2 506 88 25

Email : eurosmart@eurosmart.com

Visit our website ! www.eurosmart.com