EUROSMART
The Voice of the Smart Card Industry

COMMON PLATFORM FOR ELECTRONIC HEALTH CARD IN EUROPE

EU legislation and funded research continue to support ICT technologies and promote new development. Smart Card technology is still well positioned in that field as more and more applications are now being influenced by governmental bodies.

For the smart card industry, the European Agenda in the public sector domain is impressive: Electronic Passport, Electronic visa, Residence permit, Healthcare Smart Card, Electronic Driving Licence, Tachograph, Car registration…

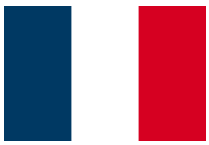
Although an acceleration of the process in Europe is evident regarding the e-passport, Health card and driving licences are put on hold.

For the EU **health insurance card** (plastic card replacing the various E 111 form) already delivered to all EU citizens travelling during the summer 2005, it appears very difficult to go any further at the moment as organisation and focus of health care systems in Europe differ very much.

Even so, the Communication adopted in February 2003, proposed a strategy and timetable for the electronic European Health Insurance card by 2008. The European Commission is now recommending a less ambitious strategy, more of a gradual approach (Action Plan 2004) – the idea today is to integrate EU information inside national electronic health cards and therefore harmonise national projects in order to try to reach interoperability. The EU Commission is starting a cost/benefit analysis for interoperable standard as well as collecting national best practices and roadmaps. A new strategy in order to boost investments and certification procedures for 2009 could be presented in a document to be published at the end of 2005. However, **the ambition remains the same, improve geographical mobility, facilitate health treatment across borders, simplify administrative procedures and access to information.**

Some countries/regions have already adopted a system (France, Germany, Austria, Slovenia, Belgium, Italian Regions…). Others are working on solutions to implement a Personal Medical Record. A common agreed platform seems urgent to adopt for the various systems to be compatible if necessary. **Members of Eurosmart are collecting information on national projects and suggesting minimum requirements for a European platform**.

The table below lists the various functionalities and security features of existing national programmes:

SCHEME	NUMBER/ INFRASTRUCTURE	FUNCTIONALITY	SECURITY FEATURES	DATES
Austrian eCard 	8 M citizens 12.000 health professional offices	electronic Health Insurance Certificate, *later: (2010)* ePrescription, eHealth Record Digital Signature Storage of EHIC data	Unique access key The processor chip is forgery-proof Different security mechanisms Encryption PIN or biometric identification (from 2010 onwards)	Start date for main rollout: May 30, 2005 in 5 regions
Sesam-Vitale 	60 million Combined with a health professional pass	Digital Signature Health care insurance information Secured access to personal medical file e-prescriptions Secured access to health server Emergency data Storage of EHIC data	32 KB PIN code Crypto processor CC EAL 4+ IAS Platform	Deployment of Vitale II to start in November 2006
Italian Regional cards Lombardy Region 	9 million cards until end March 2005 145 000 Operator cards for professionals	Personal data Health care insurance information digital signature emergency data Storage of EHIC data	32 KB Crypto processor CryptoAPI PKI	Deployed in 2005
German card Second generation 	80 million Combined with a health professional pass	Personal data Health care insurance information ePrescription digital signature emergency data Storage of EHIC data	32 – 63 KB Crypto processor Privacy architecture with secure and restricted access CCEAL 4+ PKI	Test period in 2006
Slovenian Healthcare card 	2.1 million Health Insurance Cards 20 000 Health Professional Cards	Personal identification data Insurance information & status Primary care physician Emergency data Organ donor status Prescriptions	16KB Micro-processor	Deployed in 2000
Belgium Social Security Card 	9 million Social Identity System (SIS) card Combined with health professional cards (SAM)	Social Security Identity number Insurance status Enables direct payment by social security	1KB memory cards	Deployed in 1998

For all these projects, the justifications are the same:

- Provide accurate personal identification in the physical and digital world
- Higher transparency and data security – and so ensure better acceptance by citizens and tangible benefits
- faster and secure information exchange
    - 4 days refunding in France instead of 4 weeks
- Improvement in quality of health services – ensure optimal treatment
- Increase economic efficiency and modernisation of the health care sector
    - Replace 800 million paper-based prescriptions in Germany
    - Forecast a saving of 5 billion € per year in Germany for administrative cost savings, eliminating redundant or unnecessary prescriptions or even potentially dangerous combinations of medication, as well as eliminating redundant diagnostic procedures (e.g. identical x-rays being produced by multiple doctors)
    - Around 300 million € per year of savings in France for administrative costs

Requirements for a European Common Platform:

Considering the wide differences in European health care and insurance systems which lead to different legal and regulatory systems, it seems important to define minimum goals and common use cases:

- Enabling patients and health professionals to collaborate and share patient and other health-related data for continuity of care

- Enabling healthcare providers, healthcare insurers and welfare institutions to establish reliable and efficient communication processes saving resources by efficient support for administrative procedures.

- Supporting safe mobility by enforcing the provision of emergency care and specifically enabling support for those who have chronic diseases and need regular and more intensive healthcare services.

- Supporting financial continuity for coverage of care for people regardless of their type of (public and/or private) health coverage.

Achievement of these goals leads to the use of portable data record documents and networking technology that must provide interoperability, security, privacy that are critical issues.

In order to meet these health care needs, Eurosmart recommends using the smart card technology:

- A personal data card for each insured person that could hold or refer data such as personal medical data, insurance data, emergency data… PIN and secure keys for mutual authentication between card and read/write access devices/systems. This card shall be used as a proof of entitlement, or to access proof of entitlement, for patients and/or for refunding medical fees

- Health Professional card for secure access to patient data stored either in the insured person card or on a remote medical database to help the health professional when treating patients from other countries, and/or patients who have been treated abroad.

- Card readers having capability to handle all types of European cards, by means of APIs. These card readers shall be able to handle simultaneously the insured person and the health professional cards.

- Adequate security infrastructure for the healthcare sector - Accordingly, the use of qualified electronic signatures and asymmetric encryption is needed. These procedures rely on a Public Key Infrastructure

The synergies between smart cards and the Internet would be of great help for building-up interoperable systems. Smart cards from different Member States would not necessarily need to have the same content, as long as they provide on-line access to supplementary or even complementary data.

Finally, as the use of standards does not ensure interoperability since independent applications may not implement all optional parts of a standard or may implement different subsets of a standard, the IAS approach should be considered as a minimum requirement.

IAS initiative is a combined work between France and Germany fully supported by the industry on both sides and in coherence with CEN TC 224 WG 15 on the European citizen card.
I = Identification - A = Authentication - S = Signature

EU officials are actively working on global initiatives and technical implementation could be a reality in 2006. However a strong dialogue must continue between the smart card industry and decision-makers in order to deploy successful long term solutions.

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