CASE STUDY ESTONIA

e-ID card - Key enabler for advanced e-Services

The Republic of Estonia, known as a country in the forefront of implementing e-government solutions and enabling a digital economy, introduced in 2010 a new Java based e-ID card.

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Using advanced technologies for their innovative e-ID program has a solid tradition in Estonia. In 2001, the country was among the very first in the world to launch an identity card with microprocessor chip.

Today, almost every Estonian resident owns such an e-ID, which is used regularly for an ever increasing number of public and private e-services.

The reliability and security of the card has been demonstrated by hundreds of millions electronic transactions performed up till now. And advanced applications like e-voting, e-banking, e-tax and many more have become true success stories.

Trüb, now part of Gemalto, has been a trusted partner in the Estonian e-ID program since 2001 when the initial project was launched. Since January 2011 Trüb supplies the new generation e-ID card with its tru/signTM PKI Java applet.

Advanced cryptographic performance on latest microprocessor technology, customer-specific development of card functionality and integration of the new Biometric Residence Permit (BRP) into the Estonian e-ID program were key elements in the definition of the new generation card.

The general contractor agreement with the Estonian government entails 4 parts:

> Design, development and manufacturing of polycarbonate identity cards
> Development of the contact based Java chip platform with the PKI-applet
> Optical and digital personalization for e-ID card and BRP
> Certificate Management in cooperation with the Certification Authority

Security and quality
The use of fused polycarbonate material with the integration of various physical security elements, laser engraving technology for personalization and inclusion of a security microprocessor for temper-proof storage of personal data results in a highly secure document of superior quality.

"The use of electronic signature in the country has helped save the equivalent of one week of working time per year."
Estonian President Toomas Hendrik Ilves at the launch of eIDAS in Brussels, October 14, 2014

The cards are personalized in Estonia with the personalization software from Trüb, by its local team.

Card functionality

The design of the physical document fulfills all ICAO requirements for machine-readable travel documents. The identity card is therefore not only for domestic use in Estonia, but allows the document holders to travel within the entire European Union (EU) and European Free Trade Association (EFTA) region. Additionally, the BRP features a contactless interface with the latest ICAO application, as mandated by the EU.

 The contact-based chip of the card is for the PKI application, which allows strong, 2-factor authentication and electronic signature. This technology enables citizens - as well as enterprises and civil servants - to securely use a large portfolio of available e-government, e-commerce and e-business services, including tools to ensure the confidentiality and authenticity of digital document by encryption and digital signature.

Future proof

Implementing Java Card technology, the functionality of the chip solution can be updated even in the field to adapt to changing requirements and demands.

And the e-ID card is ready to be used in other European countries as well. Estonia is actively involved in various initiatives for cross-border usage of e-government services, and the country's e-ID is in line with European Citizen Card standard and the eIDAS regulation.

In 2015, Trüb and Gemalto are joining forces to create unmatched expertise for the public sector. Public authorities can now benefit from the combined strengths of both companies for an enhanced offering in secure identification solutions.

LIST OF MAIN APPLICATIONS

e-School
eKool (The name of the Estonian e-service) is the most used secure e-service of all time in the country. This school management system covers over 90% of schools and over 95% of Estonian students.
eKool is used on a regular basis by 28 to 30% of the population.

Travelling
From 2015 onward, the new Estonian BRP implements not only the ICAO application with BAC and EAC, but also supports SAC.

National Driver's License
Estonia is the first country to rely on the e-ID card for checking a driver's permit and related status information. Police cars are equipped with an e-ID reader and a mobile workstation enabling easy and fast access to the corresponding databases.

E-Health and e-Prescription
The e-ID serves authorized users to access centrally stored health insurance files and medical records.
With e-Prescription the whole process of issuing a prescription by a medical doctor, ordering medicine by the pharmacy, pick-up by the patient and reimbursement by the insurance has become completely paperless. Digital documents can be signed electronically with locally installed DigiDoc signing software or online via DigiDoc portal. Both use the PKI applet, qualified certificates and the securely stored credentials on the e-ID card. The electronic signature has therefore the same legal status as a handwritten one.
+95% prescriptions issued electronically in 2013.

e-Voting
Estonia was the first country in the world to conduct national elections over the Internet in 2007. Citizens can cast their vote electronically via Internet. This is not only convenient for voters, but also reduces the administrative burden for collecting and counting the votes. A sophisticated system ensures the legitimacy of the voters, but also their privacy and the correct and unbiased accounting of the votes.
The idea of e-Voting in Estonia is not to kill off paper-ballot voting but to get more people to vote.
Voter participation in parliamentary elections rose from 61.9% in 2007 to 64.2% in 2015.

Loyalty
The e-ID card is widely in loyalty schemes at the supermarket or gas station. Just insert into the card reader before you pay with your credit card and you get your discount.

e-Banking
The e-ID can be used for secure and convenient access to banking services. The 2-factor login procedure and confirmation of transactions relies on the PKI functionality. The major banks are actively promoting the switch form their own credentials to the more secure and already widely used e-ID card.
98% of all banking transactions are conducted via Internet in Estonia.

ABOUT GEMALTO AND TRÜB

Gemalto is the world leader in digital security with 2014 revenues of €2.5 billion.

In the public sector, Gemalto provides secure documents, robust identity solutions and services for governments, national printers and integrators in the service of citizens. Its products and solutions are deployed in more than 100 government programs worldwide.

As pioneers in polycarbonate technology, Gemalto and Trüb are now joining forces to offer unparalleled experience and expert knowledge in this area.

Created in 1859, Trüb is synonym of quality, precision and security for high-end documents made of polycarbonate. Trüb also stands for innovation in unique security elements designed in Switzerland by its engineers.

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