[eGovernment in]

Estonia

Eesti

Country Profile
History
Strategy
Legal Framework
Actors
Who’s Who
Infrastructure
Services for Citizens
Services for Businesses

Estonia

eGovernment Factsheets

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What’s Inside

http://epractice.eu
Country Profile

Basic data and indicators

Basic Data

Population (1 000): 1,340,415 inhabitants (2009)
GDP at market prices: 16,073 million Euros (2008)
GDP per inhabitant in PPS (Purchasing Power Standards, EU-27 = 100): 68.2 (2008)
GDP growth rate: -3.6 % (2008)
Inflation rate: 10.6 % (2008)
Unemployment rate: 5.5 % (2008)
Government debt/GDP: 4.6 % (2008)
Public balance (government deficit or surplus/GDP): -2.7 % (2008)

Source: Eurostat

Area: 45,000 km²
Capital city: Tallinn
Official EU Language: Estonian
Currency: Estonian kroon

Source: Europa Website

Political Structure

Estonia is a parliamentary republic.

Legislative power lies within the unicameral Parliament, called the State Assembly (Riigikogu in Estonian). The Assembly has 101 members, elected by popular vote, to serve four-year terms. Members are elected on the basis of a proportional system, and a 5 % splinter party threshold applies for those wishing to take part in parliamentary activities.

Estonia’s Head of State is the President, elected for a five-year term by the Riigikogu. The Government, exercising executive power, is formed by the Prime Minister, nominated by the president, and a total of 14 ministers. The Government is appointed by the President with the approval of the Parliament.

Estonia is divided into 15 counties and 227 urban and rural municipalities (towns and parishes), whose powers and responsibilities are established by the Local Government Organisation Act of June 1993. The Government of each county is led by a County Governor, who represents the national Government at regional level and is appointed by the Central Government for a term of five years. Local self-government is exercised solely at the municipal level.

Estonia became a member of the European Union on 1 May 2004.

Head of State: President Toomas Hendrik Ilves (since 9 October 2006)

Head of Government: Prime Minister Andrus Ansip (since 12 April 2005)

Information Society Indicators

- Percentage of households with Internet access: 58 % (2008)
- Percentage of enterprises with Internet access: 96 % (2008)
- Percentage of individuals using the Internet at least once a week: 62 % (2008)
- Percentage of households with a broadband connection: 54 % (2008)
- Percentage of enterprises with a broadband connection: 88 % (2008)
- Percentage of individuals having purchased/ordered online in the last three months: 7 % (2008)
- Percentage of enterprises having received orders online within the previous year: 11 % (2008)
- Percentage of individuals using the Internet for interacting with public authorities: obtaining information 33 %, downloading forms 24.2 %, returning filled forms 24.4 % (2008)
- Percentage of enterprises using the Internet for interacting with public authorities: obtaining information 75 %, downloading forms 75 %, returning filled forms 62 % (2008)

Source: Eurostat

Editorial notice:

Statistical indicators referenced in this section reflect those of Eurostat at the time the Edition is being prepared.
eGovernment History

Main developments and key milestones (in reverse chronological order)

For the latest developments, see: ePractice news for eGovernment

Recent News

November 2009............................

The first information society training course is organised for the highest policy-makers in public sector institutions in order to increase their understanding of the challenges and the essence of the information society. The two-days training course organised by the Ministry of Economic Affairs and Communications and the Estonian Informatics Centre will take place regularly.

eGovernment development was supported by the EU Regional Development Fund and the application was developed by an Estonian IT company. The e-ID card application is published under the LGPLv2.

August 2009..........................

- Estonia’s largest ICT companies established the Estonian Broadband Development Foundation the objective of which is to develop, by the end of 2015, a basic infrastructure of the new generation broadband network in Estonian rural areas.
- An ambitious initiative called Estonian IT Academy is launched in cooperation between the Estonian Development Fund, the Association of Information Technology and Telecommunications Companies and Estonian universities. The objective of the joint initiative is to increase the quality of Estonia’s higher education in the field of ICT so that it would be capable of international breakthrough.

October 2009..........................

- eVoting is used again for the local government elections. The number of e-voters has been on gradual increase since 2007, when Internet-based voting was first applied in Estonia. This time, the share of e-voters among all voters reached the 15% (over 100 000 Estonians that preferred electronic voting to the traditional method).
- On 1 October 2009, the Estonian Informatics Centre - EIC (Riigi Infosüsteemide Arenduskeskus - RIA) opens its Department for Critical Information Infrastructure Protection (CIIP). CIIP aims to create the defence system for Estonia’s critical information infrastructure and to run this system. The new Department will deal with the protection of important IT systems of the public and private sectors alike. CIIP will coordinate the general protective actions while the owners of each vital service concerned will remain responsible for the daily defence of their system.
- The Estonian Government’s Informatics Centre (RIA) publishes two more versions of its open source software to enable the users of Mac OS X and GNU/Linux to have an access to their electronic identity card functionalities. The software development was supported by the EU Regional Development Fund and the application was developed by an Estonian IT company. The e-ID card application is published under the LGPLv2.

July 2009..........................

The Government of the Republic approved the amended version of the ‘Estonian Information Society Strategy 2007-2013’. The update concerns measure 4.1.1, ‘Broadening technological access to digital information’ to which a chapter was added on the development of broadband internet. In addition, the Estonian ‘Rural Development Plan 2007-2013’ was amended in summer 2009 in order to allow for the use of resources of the EU recovery package.

June 2009..........................

eVoting is used in the framework of European Parliament elections. With the national ID card, eVoting will be used between 28 May-3 June 2009.
Internet-based voting will also be used in Estonia during the local government elections in fall 2009.

May 2009.............................................

- During the second week of May 2009, the first company in Estonian business history is created in the Company Registration Portal with a Finnish ID card, without the founders of the company having had to leave their desks to get the company officially registered in Estonia. According to Ingmar Vali, the head of the Court Registry Department at the Centre of Registers and Information Systems, the Estonian Company Registration Portal was opened to the users of Finnish ID-cards at the end of last year. The portal also accepts digital signatures from Portugal, Belgium and Lithuania. The newly-created company has two Estonian and three Finnish founders who all used the ID-card of their respective country in creating the company that is located in Tallinn and deals with the wholesale of electronic and telecommunications appliances and their parts.

- Launch of the "Come Along!" (Ole Kaasas!) project. This is an Internet-promotion project launched by the Look@World Foundation in the framework of the My Estonia initiative. The project aims to provide basic and advanced computer training to 100,000 people and connect 50,000 more families to the Internet over the next three years.

February 2009..........................................

Estonian Internet Foundation is being established. The objectives of the organisation are the registration of the domain names and the representation of the Estonian internet community at the international level.

October 2009........................................

An eState Charter is completed after the initiative of the National Audit Office in co-operation with experts and opinion leaders from universities, non-governmental organisations, media and ministries among others. The document enlists and describes ten good administrative rules that should be taken into account in the provision of public eServices. The National Audit Office intends to use the principles and evaluation criteria set out in the eState Charter in its future audits assessing the quality of public services. It is also planned to launch the recognition of public services where the principles of the charter are applied. To this end, a quality mark „Wow, great eservice!” will be awarded.
In September 2008 the ‘Health Services Organisation Act and Associated Acts Amendment Act’ came into force. The Act aims to unify all information systems created for the needs of specific health care organisations into one central Health Information System. This enactment thus gives the green light to the launch of four main eHealth projects, namely: Electronic Health Record (HER), Digital Image, Digital Registration and Digital Prescription. The gradual digitisation of medical documents will continue until 2013 – the official deadline for the implementation of eHealth in Estonia.

During the same month the Computer Emergency Response Team (CERT) Estonia launched a campaign named “AssaPauk”, aimed at educating ordinary computer users in Estonia. The campaign, which guides people on how to use the Internet safely, is focused on three lessons: which links are safe to click and which are not; what kind of passwords to use; how to avoid an unpleasant identity theft. Actors telling real stories are used to get the lessons across. The campaign’s webpage is www.assapauk.ee. Relevant stories are also in YouTube (in Estonian).

In August 2008 entrepreneurs were invited to activate their email address on the eGovernment Portal (www.eesti.ee) to avoid company identity theft and detect it when it occurs. Businesses which subscribe to the service will receive an automatic notification when the Commercial Register receives an application for altering an entry.

The eID card awareness campaign ended on 30 June 2008. Over 11 000 people participated in this record attempt.

In the same month the Estonian Government invited ideas and proposals from citizens on the improvement of eServices. Ideas can be submitted through www.osale.ee, the State website which also allows citizens to participate in the legislative procedure. Because of the high level of international interest in the Estonian eGovernment experience, a freeware platform has been created which could also be used outside of Estonia. The development of the freeware product was funded by the European Union.

In May 2008, in a bid to promote the wide-scale take-up of the eSignature in Estonia, the Estonian Informatics Centre (RIA) launched a national eID awareness campaign on 22 May 2008. The aim was to encourage anyone who has yet to use the eSignature facility on their eID card to take their first steps towards the use of secure eServices and digital signing. As part of the information campaign, RIA targeted to establish a new world record – the most digital signatures to a single document.

During the same month the Estonian Government adopted a Cyber Security Strategy. Cyber security in Estonia is primarily based on reducing the vulnerability of the cyberspace in the nation as a whole. This is accomplished through the implementation of domestic action plans, but also through an active international cooperation which supports the enhancement of cyber security in other nations as well. The vulnerability of the cyberspace is a serious asymmetrical security risk which affects all nations. It must therefore be confronted on a global level.

On 3 May 2008, Estonians have joined forces in an effort to clean up the 45 227 km² country from illegally dumped or littered waste. Technology meets volunteerism with the Estonian civic initiative, “Teeme Ära 2008!” Approximately 11 000 waste dumping sites have been mapped by a special software. The team uses the combination
of three elements – (1) software, developed by Ahti Heinla, based on Google Earth; (2) positioning software for mobile phones; (3) mobile phones with GPS-device – to create a very simple to use system which allows mapping all the illegal garbage sites located throughout the country.

The East Tallinn Central Hospital became the first in Estonia to introduce an ePatient portal in April 2008. Patients can access the portal from the hospital’s website. For security reasons, an ID card is required to log in to the system – this is the only form of authorisation that can guarantee the full security of medical records. Through the portal, patients can view their medical records, book doctors’ appointments and pay consultation fees. It is also possible to order an appointment reminder via SMS or email, or both.

Since April 2008 residents of the Estonian capital city, Tallinn, can apply for and renew parkings permits electronically on https://www.parkimine.ee using their eID card, Mobile-ID or Internet banking authorisation codes. The payment of the granted permits is performed online.

As of 15 February 2008, Estonians making use of the improved Tax and Customs Board’s online service to submit their tax returns electronically can benefit from refunds from 22 February, well before those who have chosen to complete theirs on paper. The only condition is that the electronic tax return does not require any additional examination. In such case, any overpaid income tax is transferred directly to the taxpayer’s bank account within five working days of submission. By the end of the working day of 15 February, nearly 100 000 income tax returns have been received.

In January 2008 Estonia registers 3.6 million digital signatures in just one week. The number of electronic personal identifications reaches 5.2 million on the same day, while that of transactions made with the Mobile-ID service exceeds 100 000.

2007

- During the last quarter of 2007, a new version of the Estonian State portal (www.eesti.ee) merges the former State Information portal and the Citizen portal, so as to create a single integrated service. Access to information and eServices on the new portal now depends on whether the user is a citizen, entrepreneur or State official. In addition, the enhanced technical capacities of the portal will help State institutions to provide eServices without being obliged to spend large sums on the development of technological solutions.

Moreover a new, user-friendly tax and customs web service is launched. Following a consultation period with Internet users, the website’s sections have been designed to match the needs of different user groups, whether they are private persons or representatives of legal entities. The old version of eTax board is set to be available until the end of 2007.

- In November 2007, the Ministry for Economic Affairs and Communications approves the programme “Raising Awareness about the Information Society” whose objective is to sensitise citizens to the possibilities of the Information Society. The programme is to be implemented over the period 2007-2013 by the Estonian Informatics Centre with a total budget of 50 million Estonian kroons (approx. €3.2 million), funded from the EU Structural Funds.

- In September 2007, the Informatics Council – an advisory committee for the Government of Estonia – approves the two-year Implementation Plan (2007-2008) of the Estonian Information Society Strategy 2013. The priorities of the Implementation Plan include the development of a citizen-centred and inclusive Information Society, as well as the advancement of the knowledge-based economy. The Council suggests that the Minister for Economic Affairs and Communications submit it to the Government. The Informatics Council also agrees upon the full transition to strong authentication measures by renouncing to the insecure system of user names/password and opting for the wide implementation of secure eID cards or mobile-ID based solutions.
In August 2007, the Estonian Tax and Customs Board begins offering a new eService to local authorities which enable them to make inquiries on the income of the taxpayers living in their area. The purpose of the inquiry may be the evaluation of the financial circumstances of the applicants when they apply for subsidies or other financial aid.

Due to the recent cyber-attacks against Estonia’s governmental and private web pages, the Government approves an Action Plan to fight cyber-attacks in July 2007. The plan, which aims to create a strong legal basis for fighting cybercrime, seeks to improve the processes for preparing for such emergencies. The ministries in charge of Economic Affairs and Communications, Defence, Internal Affairs and Justice will be implementing the action plan.

Furthermore, the Osalusveeb website is launched; it allows everyone (Estonian citizens, associations, civil society stakeholders) who has registered as a user to express opinions on drafts published by the Government.

Since June 2007, Estonian companies can submit their annual accounts electronically through the Company Registration Portal.

Launch of the Mobile-ID service in May 2007. Mobile-ID enables the identification of a person and the signature of digital documents via mobile phone. As the expansion of the ID-card service onto mobile phones, Mobile-ID gives greater freedom for performing transactions that require personal identification (e.g. Internet banking services, digital documents signing).

In April 2007, Estonia’s governmental and private web pages suffer massive, coordinated cyber-attacks.

On 4 March 2007, Estonia holds the world’s first national general elections with an Internet voting option on 4 March 2007. A total of 30 275 citizens uses this option to register their preferences for the Estonian Parliament (Riigikogu). The Organisation for Security and Cooperation in Europe (OSCE) had raised concerns about the on-line poll; the Estonian authorities, however, expressed confidence in the method following its use in 2005, and invited a team from the OSCE to monitor the elections.

In February 2007, publication of the IT in Public Administration of Estonia Yearbook 2006 which looks back at Information Society-related activities in 2006. A significant result of Estonia’s Information Society development policy is the achievement of the largest functioning public key infrastructure in Europe, based on the use of electronic certificates maintained on the national ID card, thus allowing to considerably improve the security and functionality of IT solutions. The ‘Computer Protection 2009 initiative’ launched in May 2006 has ensured a mass-market use of the eID, says the Yearbook.

Furthermore, the newly launched Company registration portal makes it possible for start-up companies to set up a new company electronically, in just a couple of hours, using an eID card.

Regulations for X-Road, the middle-tier data exchange layer enabling Government databases to communicate with each other, are also published that month.

The ‘Estonian Information Society Strategy 2013’ enters into force on 1 January 2007. It is conceived as a sectoral development plan, setting out the general framework, objectives and respective action fields for the broad use of ICT in the development of the knowledge-based society and economy in Estonia for the period 2007-2013. The plan focuses on the use of IT to improve quality of life and increase citizen involvement in public life.

Moreover, citizens can request an electronic voter card through the eGovernment portal for citizens by the deadline of 31 January 2007. Once registered for the eVoter card, citizens will no longer receive paper voter cards through normal mail. The card does not oblige the holder to vote electronically, but provides information of where and how to vote, as well as the options for electronic voting.
2006..................................................

- In December 2006, the Estonian Informatics Centre (RIA) conducts a legal analysis to assess the legitimacy of electronic communications between the State and citizens. The study coincides with the introduction of a new service called the 'Notification Calendar' on the eGovernment portal (www.eesti.ee). The Notification Calendar sends official messages or information on important events to registered users (both individuals and businesses).

- In August 2006, statistics reveal that Estonian citizens filed more than half a million tax returns in 2006 and a staggering four-fifths of those were submitted online, making Estonia a world leader in this area.

- In July 2006, for the third year running, all Estonian students taking national examinations can register on the Estonian Citizen’s Portal to receive their exam results either by email or directly, on their mobile phones via SMS. Results reach examinees as soon as the marks are entered into the central database.

- Moreover, the Estonian Government launches a new service enabling Estonian school leavers to apply to universities online. This new service is available on the Citizen’s portal or on the new Common Admissions Information Portal (SAIS).

- In May 2006, Estonia’s Computer Emergency Response Team (CERT) is officially presented. This new unit of the Estonian Informatics Centre deals with security incidents that occur on Estonian networks, carries out preventive actions and contributes to awareness-raising on Internet security.

During that same month, leaders of the largest banks and telecoms as well as the Ministry of Economic Affairs and Communications sign a cooperation agreement to launching a nationwide 'Computer Protection 2009' initiative so as to increase end-user PC protection and awareness in Estonia while making the country the most secure Information Society in the world by 2009.

- Publication of the Estonian IT Interoperability Framework, version 2.0 in April 2006.

- In March 2006, the new initiative Küla Tee 3 (VillageWay 3) is launched. Its objective is to improve access to permanent Internet connection in sparsely populated rural areas by guaranteeing quality Internet coverage of 90% of Estonia’s territory.

Moreover, the Estonian Ministry of Economic Affairs and Communications releases the annual report 'IT in Public Administration of Estonia - Yearbook 2005'. It presents the main achievements in the eGovernment field in 2005, the latest figures relating to the Information Society progress in Estonia and a brief description of the Government’s 'Information Policy Action Plan 2006'.

2005..................................................

- In November 2005, Estonia launches a nation-wide Information Security policy which specifies and coordinates the upcoming eSecurity related initiatives. The new policy notably aims to create a secure ‘eEnvironment’ for business and consumers.

- In October 2005, Estonia becomes the first country in the world to enable its citizens to vote over the Internet for political elections – the local elections of 16 October 2005. To vote online, users must insert their eID cards into readers connected to their computers and log on to the Internet voting website.


- In April 2005, the Estonian Parliament approves the Estonian Broadband Strategy setting out the principles for the development of fast Internet connections until 2007. Its general objective is to ensure, for all citizens, the availability of eServices provided by the public and private sectors, and thereby contribute to growth, competitiveness, new jobs creation and the reduction of communications and transport costs in Estonia.
2004........................................................


2003........................................................

- In May 2003, Finland and Estonia sign an agreement to harmonise the concepts and practices between the two countries regarding digital signature, document format and exchange. The signature project, codenamed OpenXAdES, is an open initiative which promotes the 'universal digital signature'.

- In March 2003, the Estonian Government launches its eGovernment portal eesti.ee. The site is intended to provide a single, one-stop umbrella for the many Government services already online, as well as for all new services being developed.

2002........................................................

- In the summer of 2002, together with the United Nations Development Programme (UNDP) and the Open Society Institute (OSI), the Estonian Government establishes an E-Governance Academy (EGA) in order to enable Estonia’s neighbours to benefit from its eGovernment experience and expertise.

- In January 2002, Estonia starts the introduction on national electronic ID cards. The card functions are to be used in any form of business, governmental or private communications.

2001........................................................

- In December 2001, the X-Road system (’X-tee’ in Estonian) is launched. X-Road is a middle-tier data exchange layer enabling governmental databases to communicate.

- In the summer of 2001, the Estonian Government launches an innovative eDemocracy portal, TOM (Täna Otsustan Mina – in English “Today I Make Decisions”) whose aim is to enhance citizens’ participation in the public decision-making process. This portal has now become Osalusveeb.


2000 and before

- Launch of the eTaxBoard application in 2000. eTaxBoard enables taxpayers to file, view and correct their income tax returns online, but also to file VAT returns and submit VAT refund applications, to calculate their social tax and view their tax account balances.

- The year 1998 marks the adoption of the country’s first Information Society strategy, the ‘Principles of the Estonian Information Policy’. It is complemented by an Information Policy Action Plan.

The Government-wide backbone network EEBone is launched on the same year.

- A Databases Act is adopted in 1997. It regulates the creation and maintenance of digital databases, thus creating a State register of databases.
Main strategic objectives and principles

The development of the Information Society in Estonia is a strategic choice and the public sector leads the way in pursuing its principles;

The Information Society is developed in a coordinated manner, in cooperation between the public, private and third sectors;

The public sector is a smart customer, ensuring that as much freedom as possible is left for innovative solutions in public procurement;

The Information Society is created for all, particular attention being paid to the integration of social groups with special needs, the regional development and the strengthening of local self-initiative;

The consistency of the Estonian language and culture is ensured;

The development of the Information Society must not undermine people’s sense of security. The protection of basic rights, personal data and identity must be ensured, and the mitigation of non-acceptable risks in information systems must be guaranteed;

The Information Society and the opportunities it brings are taken into account in the elaboration of all sectoral policies;

Trends occurring in the EU and worldwide are taken into consideration. Furthermore, as an active partner, Estonia shares its experience and learns from others;

The public sector employs the already existing technological solutions (i.e. the eID card, the data exchange layer X-Road) and avoids duplicating IT solutions;

The public sector re-organises its business processes so as to ensure a one-off collection of data from citizens, entrepreneurs and public bodies;
The public sector gives equal treatment to different hardware and software platforms and ensures **interoperability** of information systems by using open standards.

The collection of data and the development of ICT-solutions proceed from the principle of **re-usability**.

Despite the achievement of considerable progress in implementing the previous strategies, the past Information Society-related activities were focused on developing the ICT infrastructure and creating systems that were required for putting into action sectoral policies.

Pursuant to the so-called "Vision", the new Information Society strategy now aims to place more emphasis on: the **development of a citizen-centric and inclusive society**, a **knowledge-based economy** as well as a **transparent and efficient Public Administration**.

For each component of this "Vision", actions and measures are being taken in three fields as follows:

**Action field I: Development of a citizen-centric and inclusive society**

In the Information Society, most of the information is stored in a universal digital form. In order to ensure citizen welfare, citizens must possess the skills and have willingness to use the opportunities created by the Information Society, while benefiting from a **multi-access channel** to digital information that suits their needs. In line with the strategy, by 2013, 75% of Estonian residents should be using the Internet, while household Internet penetration should amount to 70%. Moreover, by 2010, all public sector websites should comply with the Web Accessibility Initiative (WAI) criteria. To such end, the following actions are foreseen:

**Broadening technological access to digital information:**

- Developing data communications networks in **areas of market failure** and ensuring their commercialisation, so as to make high-quality services available throughout Estonia;
- Ensuring favourable environments for the development of new telecommunication technologies and **technological convergence**, including the take-up of digital TV, with the aim to guarantee the smooth launch of new telecommunications-based services while providing services of similar quality, regardless of the solutions used for their transmission;
- Bringing public sector websites into compliance with WAI quality criteria, so as to ensure their **accessibility for all**, including people with special needs;
- Further developing the State portal [www.eesti.ee](http://www.eesti.ee) by making available all public services on the "virtual office".

**Improving skills and widening possibilities for participation:**

- Continuous **upgrading of knowledge and skills** of all members of society in order to ensure their ability to cope with the Information Society;
- Developing and promoting Internet-based learning environments (**eLearning**);
- Raising **public awareness** of the Information Society by informing the population on Internet-based services, as well as on Information Society opportunities and threats;
- Digitisation and digital preservation of **cultural heritage**, making it available via the Internet for citizens, and integrating it with eLearning environments;
- Widening opportunities for participation in decision-making processes (**eDemocracy**), by developing Internet-based environments for participation while continuing to use eVoting.

**Action Field II: Development of a knowledge-based economy**

The strategy foresees that by 2013, the productivity per employee in Estonian enterprises will account for 75% of the EU average and that the share of ICT
enterprises in the national GDP will amount to 15%. To reach this objective, the following measures will be taken:

Promotion of ICT uptake by enterprises:

- Supporting the ICT uptake and use of eBusiness through business and innovation support measures;
- Re-organisation of general, vocational and higher education, so as to ensure the conformity of labour skills with the requirements of the knowledge-based economy;
- Developing a common service space for the public, private and third sectors in order to facilitate mutual communication;
- Widening the opportunities for the re-use of public sector information by the private and third sectors;
- Ensuring a favourable environment for the development of eBusiness by reviewing relevant legislation, including that on privacy, consumer protection and information security-related aspects.

Increasing the competitiveness of the Estonian ICT sector:

- Bringing IT education in accordance with the requirements of the ICT sector;
- Supporting the internationalisation of the Estonian ICT sector;
- Facilitating the development of high-quality and innovative Information Society and media services while settling intellectual property-related issues;
- Elaboration and implementation of principles concerning the outsourcing of services necessary for the functioning of the State information system;
- Increasing the role of the Estonian ICT sector in the development of the country’s defensive capacity.

Action field III: Development of a citizen-centric, transparent and efficient Public Administration.............

In line with this objective, the Administration should function efficiently while collecting, using and managing data necessary for the provision of public goods in a common and systematic manner. Public sector processes must be transparent and easy to understand. In addition, public services for citizens and businesses must be fully available electronically, widely used and structured around users’ needs. By 2013, the strategy sets the objective of 80% of citizen satisfaction and 95% of business satisfaction with regard to the use of public sector eServices. In this light, the following measures will be taken:

Improving the efficiency of the public sector:

- Transforming the public sector’s business processes in order to make better use of advantages and possibilities of the application of ICT, e.g. full eArchiving of public sector documents;
- Increasing the efficiency of policy formulation through better use of data and increased research on the impact and challenges of the Information Society.

Provision of user-friendly public eServices:

- Integration of the public, private and third sectors into a one service space to improve the quality of service provision in the public sector. Citizens shall be able to make use of a common secure service space (based on the “single window” principle) allowing them to use public services and communicate in a single environment with the State, businesses and other citizens;
- Identification, development, launch and active implementation of high impact services (eProcurement, eInvoicing, etc);
- Developing public eServices in different fields of life for citizens, businesses and public sector Agencies. Relevant information systems will be developed and implemented in order to increase the efficiency of service provision through ICT. This notably entails making health and social services available independently from one’s location;
Opening up Estonian eServices to citizens of other countries, especially those from the EU Member States.

Implementation Plan of the Estonian Information Society Strategy

The Implementation Plan of the Estonian Information Society Strategy specifies priorities in the short-term perspective, proceeding from the objectives of the strategy and considering the current situation.

An implementation plan covering a two-year perspective is drawn up annually throughout the period covered by the Information Society strategy. It defines priorities and establishes indicators against which the efficiency of prioritised activities or projects will be measured. In addition, this plan gives an overview of the most significant activities, with costs estimates for its time duration. Actual budgets for specific activities or projects are clearly determined during the budgetary process, or in the course of the EU Structural Funds application process.

The activities described in the implementation plan are grouped according to the action fields set out in the Information Society strategy.

The Government of the Republic approved in January 2009 the Implementation Plan 2009-2010 of the Estonian Information Society Strategy. The priorities of this implementation plan are the following:

- Improving skills of and widening opportunities for participation;
- Development of eBusiness environment;
- Transition to digital management of business;
- Development of public e-services, including information services;
- Large-scale take-up of eID;
- Increasing the interoperability of the state information system;
- Raising the quality of statistical analysis through improved use of data in the state information system.

Over the years 2009-2010, Estonia is going to allocate around 650 million kroons (approx. €40.625 million) for the development of the information society.

In 2008, the Ministry of Internal Affairs elaborated a development plan called “Information society strategy for local governments 2008-2011” and “Implementation plan 2008-2009 of the information society strategy for local governments” (neither of them are currently available in English). The documents set out objectives for the development of the information society and for improving the availability of public services in local governments.

The aims of the “Information Society Strategy for Local Governments 2008-2011” are the following:

- Introduction of electronic public administration in all local governments;
- Development of Internet-based tools for the involvement of citizens in the organisation of local life in all local governments;
- Ensuring that all local government officials are aware of ICT possibilities;
- Development of preconditions for the use of e-services in all local governments;
- Establishment of development organisations for the co-ordination of information society development in counties.

The Implementation Plan of the Estonian Information Society Strategy for the years 2007 and 2008 had set out the following priorities:

- Improving the IT knowledge, skills and opportunities of all members of society in order to help them to reap the benefits of the Information Society;
- Development of the electronic business environment;
- Transition to the paperless management of business in the Public Administration;
- Further development of public services, including notification services;
- Ensuring the security of the electronic environment and promoting the wide take-up of the eID.
In compliance with the State Budget Strategy and according to the estimated calculations, 290-320 million kroons (approx. €18.5-20.5 million) per year or 2.13 billion kroons (approx. €136 million) altogether were planned to be spent on the development of the Information Society over the 2007-2013 period.

The new, updated Implementation Plan for the period 2008-2009 was approved on 5 June 2008 by the Estonian Government. Published by the Department of State Information Systems (RISO), it reiterates the priorities set out in the previous Implementation Plan 2007-2008. Over the years 2008-2009, Estonia is going to allocate 585.3 million kroons (approximately €37.41 million) in the development of the Information Society. In order to find the necessary projects for achieving the goals set out in the Implementation Plan, the Estonian Informatics Centre (RIA) announces open call measures.

**Information Security Policy**

In November 2005, Estonia launched a nation-wide Information Security Policy that specifies and coordinates the upcoming eSecurity-related initiatives.

The new policy notably aims to create a secure 'eEnvironment' for business and consumers.

The main goal of the Estonian Information Security Policy is to found a secure, security-aware, internationally cooperating and enabling Estonian Information Society.

Specific goals include the elimination of non-acceptable risks, the defence of basic human rights, information security awareness and training, participation in international eSecurity-related initiatives, as well as the competitiveness of the economy.

Secure eGovernment must be based on appropriate legislation, standards, and procedures, such as security requirements for databases, services, and State procurement. Regulations in this field are coordinated by the Ministry of Economic Affairs and Communications, together with the Ministry of Internal Affairs.
eGovernment Legal Framework

Main legal texts impacting on the development of eGovernment

eGovernment Legislation

There is currently no overall eGovernment legislation in Estonia.

Freedom of Information Legislation

Public Information Act

The first version of the Public Information Act (PIA) was approved in November 2000 and took effect in January 2001. A newly revised, updated Public Information Act was passed by Parliament in December 2007 and entered into force on 1 January 2008 (note: this new version has not been made available in English yet).

The Act covers State and Local Agencies, legal persons in public law and private entities that are conducting public duties including educational, health care, social or other public services. Any person may make a request for information and the holder of information must respond within five working days. Requests for information are registered. Fees may be waived, if information is requested for research purposes.

This Act also includes significant provisions on electronic access and disclosure. Government Departments must maintain document registers. National and Local Government Departments and other holders of public information have the duty to maintain websites and post an extensive list of information on the Web, including statistics on crime and economics; enabling statutes and structural units of Agencies; job descriptions of officials, their addresses, qualifications and salary rates; information relating to health or safety; budgets and draft budgets; information on the state of the environment; and draft acts, regulations and plans including explanatory memorandum. These entities are also required to ensure that the information is not “outdated, inaccurate or misleading.” In addition, email requests must be treated as official requests for information. The Act is enforced by the Data Protection Inspectorate.

Since 1 January 2008, the Act has been also regulating the field of the former Databases Act (in force from 1997 to 2007); it thus sets out the general principles for the creation and maintenance of databases, as well as the monitoring of databases management.

The Act allows making the databases of the State information system service-oriented, creating a data exchange environment containing information about the existing information systems and databases, and monitoring data flows between information systems. Pursuant to the Act, information system managers are obliged to register their databases and information systems in a support system for the State information system (RIHA) and ensure that the related metadata are up-to-date.

Data Protection/Privacy Legislation

Personal Data Protection Act

The Personal Data Protection Act (PDPA) was passed by Parliament in June 1996 and entered into force on 19 July 1996. The Act was amended in 2003 to be made fully compliant with the EU Data Protection Directive 95/46/EC. The PDPA’s lastly amended version came into force on 1 January 2008 (note: this new version has not been made available in English yet).

The Act protects the fundamental rights and freedoms of persons with respect to the processing of their personal data, in accordance with the right of individuals to obtain freely any information that is disseminated for public use.

The 2008 version of the Act has introduced several changes. First, the previous classification of personal data into three groups (non-sensitive personal data,
private personal data and sensitive personal data) has been replaced by two data categories: (1) “personal data” and (2) “sensitive personal data”, the latter being the sub-class under special protection.

Processed personal data are protected by organisational and technical measures that must be documented. Chief processors (i.e. controllers) must register the processing of sensitive personal data with the Data Protection Inspectorate, the data protection supervision authority. The PDPA also allows individuals to obtain and correct records containing their personal information held by public and private bodies.

In addition, the previous list of “private personal data” has been transferred to the new Public Information Act and stipulated as a single ground for establishing restrictions on access to public information. For clarity purposes, the definition of “personal data” has been specified in the new PDPA Act, stating that the protection of personal data shall extend to all forms of data, including audio and graphic data, as well as biometric data.

Moreover, the new PDPA Act extends all general principles applying to the processing of personal data to the processing of the personal identification code (the unique number assigned to every Estonian citizen and resident). Lastly, the new Act contains a new definition relating to the “person liable for the protection of personal data” while regulating the processing of personal data for research and statistics purposes.

eCommerce Legislation

**Information Society Services Act**

The Information Society Services Act was passed on 14 April 2004 and entered into force on 1 May 2004. It implements EU Directive 2000/31/EC on certain legal aspects of Information Society services, in particular electronic commerce, in the Internal Market. It establishes the requirements pertaining to Information Society service providers, as well as the organisation of supervision and liability in the case of violation of these requirements.

eCommunications Legislation

**Electronic Communications Act**

The Electronic Communications Act was passed on 8 December 2004 and entered into force on 1 January 2005 in order to implement the EU Regulatory Framework for Electronic Communications.

The purpose of this Act is to create the necessary conditions to promote the development of electronic communications networks and communications services while ensuring the protection of the interests of users of such services. The Act provides requirements for: publicly available electronic communications networks and communications services; radio-communication; management of radio frequencies and numbering; apparatus and State supervision over the compliance with the requirements.

Following the recommendation of the European Commission inviting Member States to complete the transition to digital television broadcasting by 2012 at the latest, Estonia started the transition process in January 2006. The necessary measures have been adopted by the Government and the legislative process is currently under way.

eSignatures Legislation

**Digital Signature Act**

Approved on 8 March 2000, the Digital Signatures Act (DSA) entered into force on 15 December 2000. It grants similar legal value to digital and handwritten signatures while setting an obligation for all public institutions to accept digitally signed documents.

In the summer of 2006, a working group was formed under the Ministry of Interior in order to investigate and work out proposals for amending the DSA. Two major issues were identified and included in the draft DSA Act:

- A clear reference to a Secure Signature-Create Device (SSCD), as required in the EU Directive 1999/93/EC on a Community framework for electronic signatures. The aim of the SSCD is to
ensure the functionality of advanced electronic signatures;

- Provisions on the use of **digital stamps**: Digital signatures based on certificates issued to a company shall be regulated, as this technological solution already exists. Those signatures are called “digital stamps” in order to distinguish between the ‘real’ electronic signatures and the automatically created ones. Thus, a digital stamp should enable the determination of the time at which the stamp is given and the person who has given it, and link the digital stamp to data in such a manner that any subsequent change in the data or in the meaning is thereof detectable. In addition, the draft DSA Act includes a principle according to which the system has to allow for the identification of the application principles followed.

**eProcurement Legislation..........................**

**Public Procurement Act**

A new Public Procurement Act came into force in May 2007, thus transposing the EU Directives on public procurement (2004/17/EC and 2004/18/EC). It includes legal provisions enabling the **further development of eProcurement** (eAuctions, Dynamic Purchasing System, eCatalogues etc.) so as to give better opportunities for taking forward a fully electronic Procurement tendering process.

It is worth mentioning that the previous version of the Public Procurement Act (October 2000) had already established rules for the eNotification of public tenders through the country’s Public Procurement State Register.

**Re-use of Public Sector Information (PSI)..................................................**

**Public Information Act**

The Public Information Act covers the provisions of the EU Directive 2003/98/EC on the re-use of public sector information (PSI). Estonia has thus notified full transposition of the PSI-directive.

**eHealth Legislation........................**

**Health Services Organisation Act and Associated Acts Amendment Act**

On 20 December 2007, the Parliament ratified the Amendment Act establishing the **legal basis for implementing the eHealth projects**, such as the Electronic Health Record, Digital Image, Digital Registration and Digital Prescription. The goal of the new Act is to unify all information systems created for the needs of specific health care organisations into **one central Health Information System**.

The concept of eHealth is to create a basis to enable the **electronic processing of different medical documents**. Paper documents will be gradually replaced by digital documents. The diagnostic systems and medical equipment will be interfaced with the information systems that allow processing information faster while using modern methods of telemedicine.

The aim is to enhance the **protection of public health and patients’ interests** by increasing the availability and security of data. By laying down the general principles for the management of health information, the Amendment Act has set the grounds for the maintenance of medical registers.

The Amendment Act entered into force on 1 September 2008. The gradual digitisation of medical documents will continue until 2013 – the official deadline for the implementation of eHealth in Estonia.
eGovernment Actors

Main roles and responsibilities for eGovernment development

National eGovernment

Policy/Strategy

Ministry of Economic Affairs and Communications

The Ministry of Economic Affairs and Communications holds political responsibility for the development and implementation of the State information policy. The Ministry’s Department of State Information Systems (RISO) plays a major role in the elaboration and implementation of this policy and the related ones.

Coordination

Department of State Information Systems (RISO)

The Department of State Information Systems, part of the Ministry of Economic Affairs and Communications, is responsible for the coordination of State information systems, as well as the development and implementation of State IT strategies.

Estonia is a rather decentralised country concerning the development of information systems, which mostly falls under the responsibility of IT managers in ministries, county Governments, boards and inspectorates. The central coordination deals with strategic planning, setting priorities and ensuring financing for these, creating cooperation networks while ensuring their functionality, drafting IT legislation, as well as elaborating IT standards.

Estonian Informatics Centre (RIA)

The Estonian Informatics Centre, which is a subdivision of the Ministry of Economic Affairs and Communications, is the supporting Agency for the development of common information systems in the Estonian Administration. It develops, coordinates, implements and operates the main components of Estonia’s national eGovernment infrastructure, including the State portal www.eesti.ee, the middleware system X-Road, the Government backbone network EEBone, the administration system of the State information system (RIHA) and the electronic document exchange centre (DEC).

Estonian Informatics Council

The Estonian Informatics Council is an advisory committee for the Government of Estonia. Made up of experts, it is the body in charge of implementing the general coordination of the State information policy.

Implementation

Department of State Information Systems (RISO)

The Department of State Information Systems, part of the Ministry of Economic Affairs and Communications, is responsible for the coordination of State information systems, as well as the development and implementation of State IT strategies at central level.

Estonian Informatics Centre (RIA)

RIA develops, coordinates, implements and operates the main components of Estonia’s national eGovernment infrastructure, including the State portal www.eesti.ee, the middleware system X-Road, the
Government backbone network EEBone, the administration system of the State information system (RIHA) and the electronic document exchange centre (DEC).

**Government Departments and Agencies**

Government Departments and Agencies are responsible for the implementation of the departmental eGovernment projects falling within their respective fields of competence.

**Support**

**Estonian Informatics Centre (RIA)**

RIA develops, implements and operates the main components of Estonia’s national eGovernment infrastructure, including the State portal www.eesti.ee, the middleware system X-Road, the Government backbone network EEBone, the administration system of the State information system (RIHA) and the electronic document exchange centre (DEC).

**CERT Estonia**

CERT Estonia (Computer Emergency Response Team) was officially presented in May 2006. A special unit of the Estonian Informatics Centre, it deals with security incidents that occur on Estonian networks, carries out preventive actions and contributes to awareness-raising on Internet security.

**Audit/Assurance**

**National Audit Office**

The role of the National Audit Office (Riigikontroll) is to promote reforms while supporting public bodies in their efforts to create, through their activities and services, best value for the taxpayers. In order to do so, the National Audit Office assesses the performance (economy, efficiency and effectiveness) and regularity of the activities of Public Administrations, and provides recommendations to help the Parliament and the Government to improve the operation of the State.

**Data Protection**

**Data Protection Inspectorate (DPI)**

The Data Protection Inspectorate is an independent Agency placed under the authority of the Ministry of Justice (it was formerly placed under the authority of the Ministry of Internal Affairs). The DPI supervises the legality of the processing of personal data and databases, as well as the organisation of data protection activities.

**Others**

**AS Sertifitseerimiskeskus**

AS Sertifitseerimiskeskus (SK) is the Certification Authority (CA) providing certificates for the Estonian electronic ID card and related services pertaining to the use of these certificates while giving legally-binding digital signatures.

The company’s mission is to ensure the reliability and integrity of the electronic infrastructure underpinning the Estonian eID Card project, and to offer reliable certification and time-stamping services. It also functions as a competence centre for the eID Card and spreads the knowledge necessary for creating electronic applications for the card.

To this end, AS Sertifitseerimiskeskus has created DigiDoc, a universal system for giving, processing and verifying digital signatures. DigiDoc can be connected to any existing or new software, but its components are also a stand-alone client program and web portal.

**Estonian Association of Information Technology and Telecommunications (ITL)**

The ITL is a non-profit organisation whose primary objectives consist in: uniting the Estonian information technology and telecommunications companies and educational institutions; promoting their co-operation towards the development of Information Society in Estonia; representing and protecting the interests of its member companies while expressing their common positions. Main activities of the association include the popularisation of ICT, the promotion of vocational education and the amendment of legislation. The ITL also actively takes part in the preparation of State policy documents such as the ‘Estonian Information Society Strategy 2013’.
Estonian Information Technology Foundation (EITF)

EITF is a non-profit organisation founded by the Estonian Republic, Tartu University, Tallinn Technical University, Eesti Telekom and the Association of Estonian Information Technology and Telecommunications Companies. Its aims are to assist in the preparation of the highly qualified IT specialists and to support information and communication technology-related developments in Estonia. For these purposes, the Foundation established and manages the Estonian IT College and administers ‘Tiger University’, the National Support Programme for ICT in Higher Education.

eGovernance Academy

The eGovernance Academy is a regional learning centre set up by the Republic of Estonia, the United Nations Development Program (UNDP) and the Information Program of the Open Society Institute (OSI). The centre, which is a non-governmental, non-profit organisation, aims to promote the use of ICT in the work of Governments and in democratic practices. The centre provides training in eGovernance and eDemocracy, serves as a platform for the exchange of experience and conducts related research. The primary target audience includes civil servants, policy makers and representatives of civil society of the countries of Central Europe, the Caucasus, Central Asia and the Balkans.

Regional & Local eGovernment

Policy/Strategy

Ministry of Internal Affairs


Others

Association of Estonian Cities

The Association of Estonian Cities is a voluntary union established for representing the common interests and arranging co-operation among cities and rural municipalities. The Association’s main goal is to ensure the development of Local Governments through joint activities.

Association of Municipalities of Estonia

This Association gathers the majority of Estonian rural municipalities within the 15 Estonian counties.
eGovernment Who’s Who
Main eGovernment decision-makers and executives

Minister responsible for eGovernment

Juhan Parts
Minister for Economic Affairs and Communications

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Head of eGovernment

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Other eGovernment Executives.................................................................................................

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Portal

Estonia’s eGovernment portal was first launched in March 2003 on the basis of the eCitizen project which was initiated in 2002. Since then, the portal has been constantly renewed. In the last quarter of 2007, a new version of the portal merged the former ‘State Information portal’ together with the ‘Citizen portal’, so as to create a single integrated service. The new portal coordinates the information provided and the services offered by various State institutions. It features a safe Internet environment for communication with the State and offers reliable information and eSolutions for citizens, entrepreneurs and officials respectively. The access to relevant information and eServices on the portal indeed depends on whether the user is a citizen, entrepreneur or State official.

The State portal’s environment allows users authenticated with their national eID card to: access and check their personal details; perform transactions with municipal and Government bodies; complete and convey online forms and applications; sign documents digitally; create email addresses with the suffix @eesti.ee; and receive email or SMS notifications. In addition, it gives access to other registry services (e.g. the Forest Registry) on more than 20 national databases.

Based on the data held in the State Commercial Register, entrepreneurs using the portal can access transactional services for businesses.

The services offered through the portal are closely integrated with the infrastructure of the data exchange layer X-Road (see below).

Network

EEBone

EEBone (PeaTee in Estonian) is the broadband network of data communication among Government institutions. A Government-wide backbone network, it connects all Government offices across the country and provides secure access to the Internet and the Government’s Intranet. It is worth noting that all State and Local Government bodies have the right, though not the obligation, to use it.

The network was launched in October 1998, and its development was based on the backbone network ASONet elaborated by the Border Guard Administration, the Customs Board and the Police Board in 1993.

The use of the backbone network is financed centrally from the State budget, and its use is free-of-charge for subscribed clients. Clients only have to pay to access the backbone network and to determine the access connection service themselves. Currently, there are more than 21 000 computers connected to the EEBone network and over 1 300 governmental and local institutions are using it.

eIdentification/eAuthentication

Electronic ID card

Estonia started issuing national ID cards in January 2002. The card, which fulfils the requirements of Estonia’s Digital Signatures Act, is mandatory for all Estonian citizens and residing foreigners over 15 years of age.

It is meant to be the primary document for identifying citizens and residents. Its functions are to be used in any form of business – governmental or private communications. It is furthermore a valid travel document within the EU. Issued by the
Citizenship and Migration Board, the card has become valid for 5 years since 1 January 2007 (instead of 10 years previously).

In addition to being a physical identification document, the card has advanced electronic functions facilitating secure authentication and providing legally binding digital signature for public and private online services.

An electronic processor chip contains a personal data file, a certificate for authentication (along with a permanent email address Forename.Surname@eesti.ee for eCommunications with the public sector), a certificate for digital signature, and their associated private keys, protected with PIN codes. The certificates contain only the holder's name and personal code (national ID code). The data file is valid for as long as the identity card, and so are the certificates, which thus have to be renewed every five years. The number of Estonian eID cards issued since their launch passed the 1 million threshold in October 2006.

In October 2007, The Estonian Informatics Centre (RIA) has launched a tender for the development of the basic software for the ID card and digital signature. As a result, the existing software will be updated and the official ID card basic software will be ensured for less common operation systems and web browsers, and the software will be included in the installation package for most widespread Linux versions.

Common Digital Signature System

Estonia has implemented and released for free use a common digital signature system for the creation and verification of digitally signed files. The system consists of several libraries and end-user tools which all share a common format of digitally signed file. The framework creates digitally signed files with the highest security requirements and provides for long time-validity.

These important steps have enabled inter-agency and cross-sector exchange and recognition of digital signatures. The background and principles of the common digital signature system cover: time-stamping and Online Certificate Status Protocol (OCSP); long-time validity of Digital Signature; document format and DigiDoc, a universal system for giving, processing and verifying digital signatures.

As a result, digital signature inside Estonia is totally interoperable, not just in the public sector. The system follows the most advanced international standards (XAdES) in the area of advanced electronic XML-signatures.

Estonia has been trying to play a proactive role towards the interoperability of electronic signatures in the EU, by proposing the ‘Universal Electronic Signature’ (http://www.openxades.org/ues/) concept, launching www.openxades.org and signing a Memorandum of Understanding with Finland in 2003. Due to the slow international uptake in the deployment/usage of the eID, particularly in field of eSignatures, these initiatives have not been widely followed.

Mobile-ID

Mobile-ID is a development of the traditional eID card-based authentication and digital signing; the SIM card of one’s mobile phone has become an identity document just like the eID card. Similarly to the eID card, the mobile-ID enables authentication and digital signing of documents. The user’s certificates are maintained on the telecom operator’s SIM card. In order to use them, the user has to enter a PIN code.

The new mobile-ID service (wireless PKI) was launched in May 2007 by mobile operator EMT, in cooperation with several banks and the Certification Authority AS Sertifitseerimiskeskus. This service allows accessing Internet banking services without entering eBanking codes. In order to authenticate oneself securely with the mobile-ID, the user will click on a dedicated button in the web environment. Upon completion of this action, he/she will be requested to enter his authentication PIN number. Once this operation has been completed, authentication is performed. The same process applies to the signing of digital documents.

Digital signing with the mobile-ID has the same legal value as that of the eID card. When using the mobile-ID, no separate eID card and card reader are
needed, as the phone itself already performs both functions.

The main advantages of the mobile-ID include user-friendliness and convenience; the computer no longer needs to be equipped with a card reader or have special additional software installed in it. One of the objectives of the Computer Protection 2009 initiative is to reach the threshold of 200,000 people using the mobile-ID for authentication and digital signing by 2009.

ePassport

In order to comply with the EU regulation 2252/2004/EC on standards for security features and biometrics in passports and travel documents issued by Member States, the systems of the Estonian Citizenship and Migration Board (CMB) have undergone considerable changes that have been implemented step-by-step.

The first biometric passports were planned to be delivered as of May 2008. According to the plans, only the person’s face picture would be digitised in the passport at first, and a fingertip would be added at a later implementation stage.

Changes in the organisation of work and supporting systems of the CMB are planned to occur at both customer service and document issuance systems’ levels.

eProcurement

Public Procurement State Register

Established in 2001 and maintained by the Public Procurement Office, the Public Procurement State Register is an eTenders portal where all public procurement notices are published electronically. The register is using CPV standards in the catalogue, and all the information in the register is publicly accessible over the Internet, free-of-charge.

Until recently, Estonia has had no eProcurement experience beyond eTendering. But the new Public Procurement Act which came into force in May 2007 includes legal provisions enabling the further development of eProcurement (eAuctions, Dynamic Purchasing System, eCatalogues etc.). This move is intended to give better opportunities for taking forward a fully electronic Procurement tendering process.

Furthermore, the Estonian Government Programme set that by 2010 the submission of tenders should be made electronically only. Thus, the Estonian Government shows political will and support towards eProcurement.

Other Infrastructure

X-Road Middleware

Launched in December 2001, the X-Road (X-Tee in Estonian) is a middle-tier data exchange layer enabling Government databases to communicate with each other. It was initially developed as an environment facilitating the formulation of queries to different databases in a standardised way. The system allows officials, as well as legal and natural persons to search data from national databases over the Internet within the limits of their authority, using a unified user interface.

In addition, the system has been further developed to enable the creation of eServices capable of simultaneously using data held in different databases. Several extensions have thus been developed for the X-Road system. These include: writing operations to databases, transmitting huge data sets between information systems, performing successive search operations of data in different data sheets, providing services via web portals, etc. As a result, X-Road is one of the cornerstones of the Estonian State Information system.

In September 2006, X-Road comprised 67 databases providing services, 687 different services and 392 services users (institutions and companies). The hundreds of services provided by the information systems of different institutions work over the X-Road 24 hours, seven days a week. In addition, all Estonian residents with the national ID card or a contract for the use of Internet banking codes can make use of its enquiry services aimed at citizens.
Due to the constant development of technology and the ever-increasing number of its users, a new set of X-Road rules was elaborated. They establish new and more up-to-date software requirements; new security requirements conforming to the standard security system for information systems (ISKE), more detailed specifications for many technological (making back-up copies) and organisational operations, etc.

The development of several gateways has also been planned in order to support information exchange between the X-Road and the EU information systems.

**Administration System of the State information system (RIHA)**

The objective of RIHA is to ensure the interoperability of public sector information systems and the re-use of technical, organisational and semantic resources, so as to give a clear view of the State registers and of the services provided by them.

The creation and maintenance of Government databases is governed by the Public Information Act of 2007 which establishes an Administration System for State information systems (RIHA), where all the databases and information systems must be registered.

RIHA includes metadata about existing public sector databases – ranging from the information on the administrators of the databases to the eServices offered and the technical data concerning the environment/platform. Registration in RIHA is web-based; the user is authenticated and permissions are given by using the national electronic ID Card.

In the same web-based environment, requests to other information systems can be made in order to launch a new X-road based service. RIHA additionally administers two supporting systems of State registers; the system of classifiers and the address data system. The system of integrated registers enables to apply new principles of administrative arrangements: citizen-orientation, flexibility, swiftness, as well as cost and time effectiveness for both the citizen and the State.

RIHA was expected to fully begin operations by the end of 2007. Once ready, it will be used to administer the X-Road and serve as a tool enabling the performance of the following activities: to obtain information about existing services, as well as those under development; to apply for the right to use a service; to propose the creation of a new service; to use data services; to administer in-house access rights; to ensure legitimate use of data services.

**The Electronic Document Exchange Centre (DEC)**

In 2006, the Estonian Informatics Centre procured and implemented a Document Exchange Centre (DEC), which enables secure XML-based automatic data exchange among electronic records management systems (ERMS) over the X-Road (documents are messages with described semantics and structure).

The DEC is a common central information system for different ERMS and applications for handling the documents of State portals. The objectives of the DEC are the following: interfacing dispersed information systems through the secure data exchange layer X-Road; short-term preservation of documents and, in the future, providing services that will support the proceeding of documents; long-term preservation and backup of documents.

Using the DEC as a central asynchronous buffering component on the distributed X-Road infrastructure is justified by both the needs to simplify the joining of ERMS with the State document exchange infrastructure and to ensure the reliability of document exchange. The functionality of the DEC is independent of the document format and does not impose any document type restrictions.

The DEC offers several advantages. In order to launch an electronic document exchange, an Agency needs to have electronic documents and records management software (ERMS) which is interfaced to DEC, and to join the DEC – the environment’s services must be opened for it. Furthermore, records management systems willing to join the DEC only need to be able to make X-Road queries, without having to be able to respond to them. At the same time, the DEC (as a database) must be able to respond to X-Road queries, but does not have to transmit them to
many different systems. Lastly, the DEC, as a central high availability information system, acts as an asynchronous buffer, ensuring the possibility to preserve a document (when the document management system of the receiving Agency is not available) and to accept the document at a time suitable for the receiver.

In October 2007, the document type “letter” had already been described. In the longer perspective, the use of the DEC will be extended, so as to include other types of documents (e.g. financial documents, such as invoices). In addition, the evolution of the DEC towards an infrastructure for the transmission of messages with described semantics can be foreseen. The DEC will allow for the gradual implementation of paperless document exchange in the public sector, regardless of the ERMS used in specific Agencies. Such a document exchange will ensure the integrity of transmitted digital documents and create preconditions for their long-term preservation.

Health Information System

The Health Information System project, coordinated by the Ministry of Social Affairs and supported by the European Union Structural Funds, is currently being tested in Estonia. The project consists of four sub-projects: Electronic Health Record (EHR), Digital Imaging, Digital Prescription and Digital Registration.

The ‘Health Services Organization Act and Associated Acts Amendment Act’ passed in the Estonian Parliament on 20 December 2007 provides that as of 1 September 2008, health care service providers are obliged to forward medical data to the Health Information System. The first applications of the eHealth Information System were set to be launched during the fall of 2008. The system’s gradual development has been scheduled to continue until 2013 – the official deadline for the implementation of eHealth in the country.

The eHealth Information System is a database which is a part of the State information system. The data relating to the health care field is processed in this database in order to provide quality healthcare services, guarantee patients’ rights and protect public health.

According to the Health Information System Statute, the authorised processor of the health information system is the Estonian eHealth Foundation. The health care services providers have to conclude a contract with the Estonian eHealth Foundation in order to be interfaced with the Health Information System.

The Digital Registration sub-project is aimed at developing a centrally administered system for electronic registration by interfacing the already existing registration systems of different health service providers. It will allow patients and family physicians to see the reception hours of medical specialists and to make/cancel appointments online via one web portal.
eGovernment Services for Citizens

Availability and sophistication of eServices for Citizens

The information in this section is based on the common list of 20 basic public services contained in the annual report "Smarter, Faster, Better eGovernment – 8th Benchmark Measurement" prepared for the European Commission, Directorate General for Information Society and Media, November 2009.

The 12 services for citizens are as follows:

1. Income taxes: declaration, notification of assessment
2. Job search services by labour offices
3. Social security benefits
4. Personal documents: passport and driver’s licence
5. Car registration (new, used, imported cars)
6. Application for building permission
7. Declaration to the police (e.g. in case of theft)
8. Public libraries (availability of catalogues, search tools)
9. Certificates (birth and marriage) request and delivery
10. Enrolment in higher education/university
11. Announcement of moving (change of address)
12. Health related services (interactive advice on the availability of services in different hospitals; appointments for hospitals)

1. Income taxes: declaration, notification of assessment

Responsibility: Central Government, Tax and Customs Board
Website: http://www.emta.ee/
Description: The eTaxBoard (eMaksuame) enables taxpayers to file, view and correct their income tax returns online and to check their tax account balances. Estonian citizens can use their electronic ID card as the identification method for accessing eTaxBoard. Those having submitted their tax returns online can benefit from accelerated tax refunds that are transferred directly to their bank account, within the five working days following the submission.
### 2. Job search services by labour offices

**Responsibility:** Central Government, Estonian Labour Market Board  
**Website:** [http://www.amet.ee/](http://www.amet.ee/)  
**Description:** Current job offers at national and regional labour offices in Estonia, with a short description of each job, deadlines for application and contacts for applying, as well as electronic supply of pre-selected jobs related to the job seeker’s profile.

### 3. Social security benefits

#### a. Unemployment benefits

**Responsibility:** Central Government, Estonian Unemployment Insurance Fund  
**Website:** [http://www.tootukassa.ee/](http://www.tootukassa.ee/)  
**Description:** Information and forms to download.

#### b. Child allowances

**Responsibility:** Central Government, Social Insurance Board  
**Website:** [http://www.eesti.ee/](http://www.eesti.ee/)  
**Description:** Pursuant to the Parental Benefit Act, the online Parental Benefit service was launched at the beginning of 2004. The service is 100% electronic: persons without Internet access can go to the Social Insurance Board to submit their application, but even there the application is filed electronically with the assistance of Insurance Board employees. The whole process is paperless. Based on the X-road middleware system connecting different State databases, this service does not require citizens to submit data already known by the State.
### c. Medical costs (reimbursement or direct settlement)

<table>
<thead>
<tr>
<th>Responsibility</th>
<th>Central Government, Estonian Health Insurance Fund</th>
</tr>
</thead>
<tbody>
<tr>
<td>Website</td>
<td><a href="http://www.eesti.ee/">http://www.eesti.ee/</a></td>
</tr>
</tbody>
</table>

**Description:** Estonian health insurance relies on the principle of solidarity: the Health Insurance Fund covers the cost of health services required by the person in case of illness regardless of the amount of social tax paid for the person concerned. The Fund also uses the social tax paid for the working population for covering the cost of health services provided to persons who have no income with regard to work activities. There is no refund system in Estonia. Where the health service provider has a contract with the Estonian Health Insurance Fund, all costs are directly paid to it by the Fund. The patient shall pay only a reduced personal contribution, which is not refundable. If the health service provider does not have a contract, the patient must pay for the health service himself/herself. Internet banking clients or holders of the Estonian eID card can use eServices available through the national portal to check the validity of their health insurance, their address (and if necessary correct it), the name of the family physician and the payment of sickness benefits.

### d. Student grants

<table>
<thead>
<tr>
<th>Responsibility</th>
<th>Central Government, Ministry of Education and Research, Higher Education institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Website</td>
<td><a href="http://www.hm.ee/">http://www.hm.ee/</a></td>
</tr>
</tbody>
</table>

**Description:** With the Study Allowances and Study Loans Act (2003), Estonia has established a system of study allowances and created the possibilities to get study loans. The main objective of the system of study allowances, only accessible at a certain level of income and for students who successfully progress in their studies, is to motivate students to study full time and successfully and to complete the study programme within the nominal period. Study loans secured by the State are intended to give students who study full-time but who are not entitled to get study allowances the possibility to finance their studies. Applications, attributions and payments of study grants are managed directly by Higher Education institutions.

### 4. Personal documents: passport and driver’s licence

#### a. Passport

<table>
<thead>
<tr>
<th>Responsibility</th>
<th>Central Government, Citizenship and Migration Board</th>
</tr>
</thead>
<tbody>
<tr>
<td>Website</td>
<td><a href="http://www.mig.ee/">http://www.mig.ee/</a></td>
</tr>
</tbody>
</table>

**Description:** Information and application forms to download. The website allows for online application for ID documents. This service requires the use of an electronic signature.
### b. Driver’s licence
- **Responsibility:** Central Government, Estonian Motor Vehicle Registration Centre
- **Website:** [http://www.ark.ee/](http://www.ark.ee/)
- **Description:** Information only. Applications must be submitted in person at the Estonian Motor Vehicle Registration Centre.

### 5. Car registration (new, used, imported cars)
- **Responsibility:** Central Government, Estonian Motor Vehicle Registration Centre
- **Website:** [http://www.ark.ee/](http://www.ark.ee/)
- **Description:** Information and forms to download. Car registration applications must be submitted in person at the Estonian Motor Vehicle Registration Centre (ARK).

### 6. Application for building permission
- **Responsibility:** Local Government
- **Website:** [http://www.eesti.ee](http://www.eesti.ee)
- **Description:** Information only. Planning permission applications are handled by local authorities.

### 7. Declaration to the police (e.g. in case of theft)
- **Responsibility:** Central Government, Estonian Police
- **Website:** [http://www.politsei.ee](http://www.politsei.ee)
- **Description:** An online crime reporting service is available on the website of the Estonian Police.

### 8. Public libraries (availability of catalogues, search tools)
- **Responsibility:** Central Government, National Library of Estonia
- **Website:** [http://helios.nlib.ee/](http://helios.nlib.ee/)
- **Description:** Online catalogue and reservation facility.
### 9. Certificates (birth and marriage): request and delivery

**Responsibility:** Local Government  
**Website:** [http://www.eesti.ee](http://www.eesti.ee)  
**Description:** Information only. Requests for certificates are handled by local authorities.

### 10. Enrolment in higher education/university

**Responsibility:** Central Government, Higher Education institutions  
**Website:** [https://www.sais.ee/](https://www.sais.ee/)  
**Description:** Enrolment in higher education is managed by Higher Education institutions. An enrolment information system called SAIS (**SissAstumise InfoSüsteem**) has been developed to enable the entire enrolment, processing, decision-making and information in a single environment on the Internet for participating universities. The system uses the eID card as an authentication tool. It can however be entered through one of the Estonian Internet Banks. Since the results of high school examinations are already in the online database, students can see immediately if they have been accepted to a participating university. The system, which belongs to the Ministry of Education, is managed by the consortium of member institutions.

### 11. Announcement of moving (change of address)

**Responsibility:** Central Government (Estonian Population Register)/Local Government  
**Description:** On the Estonian Population Register’s website, it is possible for citizens to make the announcement of moving by sending a digitally signed document. By doing so, a person is automatically identified. Consequently, there is no need to present any other identifying document.
12. Health related services (interactive advice on the availability of services in different hospitals; appointments for hospitals)

<table>
<thead>
<tr>
<th>Responsibility:</th>
<th>Ministry of Social Affairs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Website:</td>
<td><a href="http://www.digilugu.ee/portal/page/portal/Digilugu/ETerviseProjektid">http://www.digilugu.ee/portal/page/portal/Digilugu/ETerviseProjektid</a></td>
</tr>
<tr>
<td>Description:</td>
<td>The East Tallinn Central Hospital became the first in Estonia to introduce an ePatient portal in April 2008. Patients can access the portal from the hospital's website. For security reasons, an ID card is required to log in to the system – this is the only form of authorisation that can guarantee the full security of medical records. Through the portal, patients can view their medical records, book doctors’ appointments and pay consultation fees. It is also possible to order an appointment reminder via SMS or email, or both. More generally, it is to be noted that the Health Information System project, coordinated by the Ministry of Social Affairs, is currently being tested in Estonia. The project consists of four sub-projects: Electronic Health Record (EHR), Digital Imaging, Digital Prescription and Digital Registration. The Digital Registration sub-project is aimed at developing a centrally administered system for electronic registration by interfacing the already existing registration systems of different health service providers. It will allow patients and family physicians to see the reception hours of medical specialists and to make/cancel appointments online via one web portal.</td>
</tr>
</tbody>
</table>

Further information on the services and on the latest official online sophistication ratings is available in the "Smarter, Faster, Better eGovernment – 8th Benchmark Measurement” report, prepared for the European Commission, Directorate General for Information Society and Media, November 2009.
eGovernment Services for Businesses

Availability and sophistication of eServices for Businesses

The information in this section is based on the common list of 20 basic public services contained in the annual report "Smarter, Faster, Better eGovernment – 8th Benchmark Measurement" prepared for the European Commission, Directorate General for Information Society and Media, November 2009.

The 8 services for businesses are as follows:

1. Social contributions for employees
2. Corporate tax: declaration, notification
3. VAT: declaration, notification
4. Registration of a new company
5. Submission of data to statistical offices
6. Customs declarations
7. Environment-related permits (incl. reporting)
8. Public procurement

1. Social contributions for employees
Responsibility: Central Government, Tax and Customs Board
Website: http://www.emta.ee/
Description: Estonian employers are required by law to pay 'social tax' for all persons employed. The rate of this tax is 33% of the taxable salary. 20% is allocated to pension insurance and 13% to health insurance. The social tax can be calculated, filed and paid online using the eTaxBoard (eMaksuamet).

2. Corporate tax: declaration, notification
Responsibility: Central Government, Tax and Customs Board
Website: http://www.emta.ee/
Description: The eTaxBoard (eMaksuamet) enables corporate taxpayers to file, view and correct their corporate tax returns online, and view their tax account balances.
### 3. VAT: declaration, notification

<table>
<thead>
<tr>
<th>Responsibility:</th>
<th>Central Government, Tax and Customs Board</th>
</tr>
</thead>
<tbody>
<tr>
<td>Website:</td>
<td><a href="http://www.emta.ee/">http://www.emta.ee/</a></td>
</tr>
<tr>
<td>Description:</td>
<td>The eTaxBoard (eMaksuamet) enables corporate taxpayers to view their VAT returns, submit VAT refund applications and view their tax account balances.</td>
</tr>
</tbody>
</table>

### 4. Registration of a new company

<table>
<thead>
<tr>
<th>Responsibility:</th>
<th>Central Government, Centre of Registers and Information Systems</th>
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</thead>
<tbody>
<tr>
<td>Description:</td>
<td>The Centre of Registers and Information Systems is a State Agency working under the Ministry of Justice. Its main function is the administration of a number of central databases and registers, among which the Estonian enterprises register. Since February 2007, entrepreneurs have been enabled to submit data to the Commercial Register through the new Company registration portal. They can submit registry documents which are processed in the expedited proceedings at least in the next working day. Persons are identified and procedures are performed using the Estonian eID card and digital signature.</td>
</tr>
</tbody>
</table>

### 5. Submission of data to statistical offices

<table>
<thead>
<tr>
<th>Responsibility:</th>
<th>Central Government, Statistical Office of Estonia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Website:</td>
<td><a href="https://estat.stat.ee/">https://estat.stat.ee/</a></td>
</tr>
<tr>
<td>Description:</td>
<td>Data can be submitted electronically to the Statistical Office. The eSTAT is a web-based channel which has been available since February 2006 for filing official statistical reports. It offers an operational overview of the reports filed through different channels in the Statistical Office, as well as contacts with the providers of these reports.</td>
</tr>
</tbody>
</table>
6. Customs declarations
Responsibility: Central Government, Tax and Customs Board
Website: [http://www.emta.ee/](http://www.emta.ee/)
Description: The Estonian Tax and Customs Board developed an eCustoms application (eToll) that enables online filing of customs declarations. Moreover, a web-based system called COMPLEX was launched in May 2006 for processing customs declarations. It can be used from every computer with Internet access. The Tax and Customs Board can update and maintain the system on a day-to-day basis, so that users themselves do not have to do it, which allows greater savings for enterprises. Customs declarations can also be drawn up and submitted in XML-format. In order to use COMPLEX, a client can enter the eTaxBoard, via the Tax and Customs Board's webpage or an Internet bank.

7. Environment-related permits (incl. reporting)
Responsibility: Central Government, Ministry of the Environment, Estonian Environment Information Centre
Websites: [http://klis.envir.ee/](http://klis.envir.ee/)
Description: Fully transactional service.

8. Public procurement
Responsibility: Central Government, Public Procurement Office
Website: [https://riigihanked.riik.ee/](https://riigihanked.riik.ee/)
Description: Established in 2001, the Public Procurement State Register is an eTenders portal where all public procurement notices are published electronically. For the moment, the system does not rely on the use of digital signatures and it does not support the submission of tenders.

Further information on the services and on the latest official online sophistication ratings is available in the "Smarter, Faster, Better eGovernment – 8th Benchmark Measurement" report, prepared for the European Commission, Directorate General for Information Society and Media, November 2009.
eGovernment practice (epractice.eu) is an information and exchange service for European professionals.

The eGovernment factsheets are one of the epractice.eu services. The factsheets present an overview of the eGovernment situation and progress in European countries.

The eGovernment factsheets are produced and updated twice a year.

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