

[eInclusion in]

Estonia

Eesti



ICT & Ageing

Geographic Digital Divide

eAccessibility

eInclusion

Cultural Diversity

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Disclaimer:

This document is not intended to be exhaustive. Its purpose is to give an overview of the general eInclusion status in Estonia. Even though every care has been taken to ensure accuracy, the information herein should be treated as indicative and no responsibility for errors can be assumed. Neither the European Commission, nor any person acting on its behalf can be held responsible for the use that could be made of the information provided.

Country Profile

Basic data and indicators

Basic Data

Population (1 000): 1 340.1 inhabitants (2010)

GDP at market prices: 13 860.8 million Euro (2009)

GDP per inhabitant in PPS (Purchasing Power Standards, EU-27 = 100): 64.0 (2009)

GDP growth rate: -13.9 % (2009)

Inflation rate: 2.7 % (2010)

Unemployment rate: 13.8 % (2009)

Government debt/GDP: 7.2 % (2009)

Public balance (government deficit or surplus/GDP): -1.7 % (2009)

Source: [Eurostat](#)

Area: 45 000 km²

Capital city: Tallinn

Official EU languages: Estonian

Currency: Euro

Source: [Europa website](#)

Information Society Indicators

Percentage of households with Internet access: 68 % (2010)

Percentage of households with broadband connection: 64 % (2010)

Percentage of individuals regularly using the Internet: 71 % (2010)

Percentage of individuals using the Internet for uploading self-created content: 21 % (2008)

Percentage of individuals using the Internet for reading online newspapers/magazines: 63 % (2009)

Percentage of Individuals using the Internet for finding information about goods and services: 61 % (2010)

Percentage of Individuals using the Internet for seeking health-related information: 35 % (2010)

Percentage of individuals using the Internet for looking for a job or sending a job application: 26 % (2010)

Percentage of individuals using the Internet for doing an online course: 6 % (2010)

Percentage of individuals using the Internet for seeking information with the purpose of learning: 26 % (2010)

Percentage of individuals using the Internet for interaction with public authorities: obtaining information 46.9 %, downloading forms 35.5 %, returning filled forms 35.1 % (2010)

Source: [Eurostat](#)

Editorial notice: Statistical indicators referenced in this section reflect those of Eurostat at the time the Edition is being prepared.

eInclusion History

Main developments and key milestones (in reverse chronological order)

For the latest developments, see: [ePractice news for eInclusion](#)

Recent News

September 2010

The [Etnoweb.ee](#) website was presented at the [Council of Ethnic Minorities](#) meeting on 7 September 2010. This new website is aimed at improving **information sharing** between ethnic minority groups. More specifically, the purpose of this website's creation is for 'improving communications between various cultural organisations and minority communities, and everyone who might be interested in this information - mass media, the government, funds or people interested in national cultures because of professional or personal interest'.

The newly established 'Youth Assembly of Ethnic Minorities', whose members created the Etnoweb portal, made their presentation at the Council's regular meeting in the Parliament building. The Council of Ethnic Minorities, a group that advises the Minister of Culture on matters related to the cultural life of ethnic minorities in Estonia, meets every three months.

[Etnoweb.ee](#) was launched on 1 September 2010, and a week later counted 20 member organisations.

July 2010

On 5 July 2010, the [Estonian Information Centre](#) (*Riigi Infosüsteemide Arenduskeskus*, RIA) opened a call for applications designed to provide people with the necessary **skills** for using digital services and to raise awareness of the **dangers of Internet surfing**. The deadline for applications is 10 August 2010.

Three days later an information day took place at RIA premises with the purpose of discussing what has been achieved in this field so far while enabling those interested to ask questions on how to apply for grants under this call.

Applications are called for in two domains of activities, namely:

- ▶ projects aimed at enhancing people's knowledge and skills as to the use of digital solutions - public or private;
- ▶ projects seeking to promote safe Internet use. The particular target group is made up of children and youngsters under 21 and the adults they are in contact with (parents, teachers, etc).

Projects intended to make the use of digital services easier, more user-centric and secure are also welcome. Particularly welcome are those projects aiming to increase opportunities for people with special needs and participation in the Information Society.

Eligible applicants are non-profit organisations and foundations, municipalities and groupings of local authorities, public-law legal entities, government agencies and institutions administered by them.

The maximum amount to be allocated by project is € 4 million. The total budget for this call is € 18 million.

February 2010

The Government of Estonia approved the Implementation Plan for 2010-2011 of the Estonian Information Society Strategy 2013. The document set out six priority areas: increasing the **knowledge, skills and participation** of individuals; development of Estonia's next generation broadband network;

development of electronic business environment; development of public services; large-scale uptake of eID; and increasing the interoperability of state information systems.

January 2010

- ▶ From 4 to 15 January 2010, advisors of the '[Come Along!](#)' (*Ole Kaasas!*) project offered **free advice** to anyone interested about the way electronic services work. The training sessions were held at the municipal post offices of *Türi, Püssi, Põlva, Antsla, Hargla, Sindi, Saku, Loksa, Lihula* and *Tõrremäe*, and covered electronic services offered by the Estonian Post as well as by a number of other public sector institutions, including the [electronic Identification \(eID\) card](#), the [Mobile ID](#) and the digital signature.

The **training sessions** lasted about 10 to 15 minutes; they were free-of-charge and offered in Estonian and Russian. Participants were asked to give their feedback on their experiences in using electronic services, as well as possible difficulties that they may have encountered while using them.

The 'Come Along!' project aims to organise in-service **computer trainings** for 100 000 people and over the next three years to connect to the Internet 50 000 additional families. This training initiative is co-financed by the European Regional Development Fund with an amount of 3 million Estonian crowns (approx. € 191 million).

- ▶ A month-long campaign 'Gateway to eEstonia' was launched to promote State Portal [eesti.ee](#) both to the general public and service providers. The objective of the campaign is to **increase users' awareness** of the portal and invite them to provide feedback on how to improve the website and increase its user-friendliness.

News 2009 and before

2009

- ▶ In *August 2009*, Estonia's largest ICT companies established the Estonian Broadband Development Foundation (*Eesti Lairiba Arenduse Sihtasutuse*, ELA) 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.
- ▶ In *July 2009*, the Government of the Republic approved the **amended version** of the '[Estonian Information Society Strategy 2013](#)' (*Eesti infoühiskonna arengukava 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.
- ▶ In *April 2009*, the [Estonian Association of Information Technology and Telecommunications](#) (*Eesti Infotehnoloogia ja Telekommunikatsiooni Liit*, ITL) publishes the 'Development vision of next-generation broadband network in Estonia'. This document is based on a survey carried out on behalf of ITL among representatives of the Ministry of Economic Affairs and Communications (*Majandus-ja Kommunikatsiooni-ministeerium*), the Competition Board, the Technical Surveillance Authority and nine electronic communications operators in Estonia. The document, which also considers relevant international surveys, positions of the institutions of the European Union as well as related work carried out by other countries in this area, gives a comprehensive overview of how the information and communications technologies influence the economy, environment and society. In addition, it provides examples of the other countries' experience in this area with the ultimate target to propose an **action plan** and **organisational model** for the transition to a modern information society infrastructure in Estonia that will contribute to a better business and living environment in rural areas.

2007

- ▶ Coordinated by the Estonian Informatics Centre (*Riigi Infosüsteemide Arenduskeskus*, RIA) as part of Estonia's broadband strategy for 2005-2007, the VillageRoad3 (*KülaTee3*) project aimed to extend access to **broadband internet connections** in remote rural areas. More specifically, the project set as its objective to achieve 90 % coverage of internet broadband access in Estonia. The greatest challenge was to reach remote or sparsely populated rural areas. Actions to address this were undertaken in collaboration with local governments, district councils and the telecommunications board.

At the beginning of *November 2007*, four new actions were launched in counties where internet access needed to be improved. Similar actions were also prepared for other counties. Within the framework of the project, 11 WiMax internet support stations, complete with the necessary transmission equipment, were also erected on the Saaremaa Island by the Telecommunications and IT services provider Elion. In total, some 120 WiMax support stations were erected so far, all over Estonia, as part of the VillageRoad3 project.

- ▶ In *October 2007*, the [Estonian M-CLASS Teacher](#) (*M-klassijuhataja*) project received **international recognition**, as it was selected among the finalists of the 2007 Baltic Challenge Award contest. This project was developed by a private company in collaboration with the Tartu city authorities to provide parents, teachers and students of the city with an alternative – and more effective – means of communication. Thanks to this project, teachers in the participating schools have been able to send SMS text messages to the mobile phones of parents and/or students using a simple computer programme.

2006

On *30 November 2006*, the Government of Estonia approved the '[Estonian Information Society Strategy 2013](#)' (*Eesti infoühiskonna arengukava 2013*, original version) - a sectoral development plan, setting out the general framework, objectives and respective action fields for the broad employment of ICT in the development of **knowledge-based economy** and **society** in Estonia in 2007-2013.

2005

In *April 2005*, the Estonian Parliament approved the '[Estonian Broadband Strategy](#)' (*Eesti lairibastrateegia aastateks 2005–2007*) setting out the principles for the development of **fast Internet connections** until 2007. Its general objective was to ensure, for all citizens, the availability of eServices provided by the public and private sectors, and thereby contribute to growth, competitiveness, the creation of new jobs positions and the reduction of communications and transport costs in Estonia.

2004

In *2004*, a follow-up to the document on 'Principles of Estonian Information Policy' of 1998 was elaborated and approved by the Government of the Republic in form of the '[Principles of Estonian Information Policy 2004-2006](#)'. Among others, these principles foresee: improvement of skills and access of social groups in unequal position for using electronically provided services; better provision of schools with computers to achieve the ultimate goal of one computer per 20 students; and the launching of the Tiger University program to support the development of information and communication technology (ICT) infrastructure and academic ICT staff, and the infrastructure for post-graduate training.

1998

The year *1998* marks the adoption of the country's first Information Society strategy, the '[Principles of the Estonian Information Policy](#)' (*Eesti infopoliitika põhialuste heakskiitmine*). It is complemented by an Information Policy Action Plan.

eInclusion Strategy

Main strategic objectives and principles

In Estonia, there is no distinct strategy for the promotion of eInclusion. It is seen as a horizontal policy through different sectoral strategies, mainly those concerning Information Society.

Estonian Information Society Strategy 2013

The '[Estonian Information Society Strategy 2013](#)' (*Eesti infoühiskonna arengukava 2013*) was approved by the Order of the Government of the Republic Nr 667 (of 30 November 2006) and entered into force in January 2007. This strategy, which is targeted at all residents of Estonia, constitutes a **sectoral development plan**, setting out the general framework, objectives and respective action fields for the broad use of ICT in the development of knowledge-based economy and society in Estonia in 2007-2013. Several international and EU-level policy documents, notably the [EU i2010](#) and eGovernment action plans, were taken into consideration when elaborating the strategy. The elaboration work involved all ministries, the State Chancellery, as well as organisations representing the third sector and scientific circles.

This strategy sets out the **basic principles** of the Government of the Republic for the development of the Information Society in the country. These principles are taken into account and translated into relevant activities in the process of updating and elaborating of organisational, sectoral and regional development plans by government agencies. Among others, the strategy is based on the following principle: 'the information society is created for all Estonian residents, whereas particular attention is paid to the integration of social groups with special needs, to regional development and to strengthening local self-initiative.'

Moreover, one of the main strategy objectives is to ensure that: 'Each member of the society leads a full life, using the opportunities of the information society in every possible way and actively participating in public life ('nobody will stay or will be left behind')'.

Action field I: Development of citizen-centred and inclusive society

In order to realise this vision, among others, the strategy introduces a dedicated action field ('Action field I: Development of citizen-centred and inclusive society') containing **measures** to be elaborated and implemented in this direction. The strategy considers that 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 the 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 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.

On 30 July 2009, a [revised version](#) of the 'Estonian Information Society Strategy 2013' was made available. The revision concerned measure 4.1.1. on 'Broadening technological access to digital information' in which the chapter 4.1.1.1. on the development of a 'Nation-wide broadband Internet Connection enabling a sustainable infrastructure construction' was added.

Implementation Plan 2009-2010

The Estonian Information Society Strategy is being realised according to an **implementation plan**, drawn up annually throughout the period covered by the Information Society strategy and covering a two-year perspective. The plan 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 cost 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 'Implementation Plan 2009-2010' of the Estonian Information Society Strategy was approved in January 2009 placing focus, among others, on improving skills of and widening opportunities for participation. Over the years 2009-2010, Estonia planned to allocate approx. € 40 625 million for the development of the information society.

National Report on Strategies for Social Protection and Social Inclusion 2008-2010

With respect to eInclusion, the '[National Report on Strategies for Social Protection and Social Inclusion 2008-2010](#)', prepared by the [Ministry of Social Affairs](#) (*Sotsiaalministeerium*), states the main challenges in preventing and narrowing the digital divide: developing an individual-centred and **inclusive society**. 'A precondition to participating in the knowledge society is access to the Internet and services using ICT opportunities in general. The goal is to have each member of society aware of the possibilities of information society, that they would have the skills and opportunities to use and create digital information and actively participate in public life both on the national and regional level'.

eInclusion Legal Framework

Main legal texts impacting on the development of eInclusion

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.

As far as eAccessibility in Telecommunication is concerned, the Electronic Communication Act includes a general obligation to take into consideration the needs of persons with special needs.

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.

eInclusion Actors

Main roles and responsibilities

National eInclusion

Policy/Strategy

Ministry of Economic Affairs and Communications (*Majandus-ja Kommunikatsiooni-ministeerium*)

The Ministry of Economic Affairs and Communications (*Majandus-ja Kommunikatsiooni-ministeerium*) holds political responsibility for the development of the Information Society policy in Estonia, as well as for the development and implementation of the State Information Policy. The Ministry's [Department of State Information Systems](#) (*Riigi infosüsteemide*, RISO) plays a major role in the elaboration and implementation of that policy and the related ones.

Coordination

Ministry of Economic Affairs and Communications (*Majandus-ja Kommunikatsiooni-ministeerium*)

The Ministry of Economic Affairs and Communications (*Majandus- ja Kommunikatsiooniministeerium*) is responsible for the coordination of the Information Society development in Estonia. In particular, the Ministry is also responsible for several eInclusion related measures within the framework of the '[Estonian Information Society Strategy 2013](#)', among others, those relating to broadening technological access to digital information (including the alignment of public sector websites with WAI quality criteria), as well as measures related to the improvement of skills and to widening possibilities for participation.

Department of State Information Systems (*Riigi infosüsteemide*, RISO)

The Department of State Information Systems (*Riigi infosüsteemide*, RISO), part of the Ministry of Economic Affairs and Communications (*Majandus- ja Kommunikatsiooni-ministeerium*), is responsible for the coordination of State information systems, as well as the development and implementation of State IT strategies and the Information Society in general.

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, creating cooperation networks while ensuring their functionality, drafting IT legislation, as well as elaborating IT standards.

Estonian Informatics Centre (*Riigi Infosüsteemide Arenduskeskus*, RIA)

The Estonian Informatics Centre, which is a subdivision of the Ministry of Economic Affairs and Communications (*Majandus-ja Kommunikatsiooni-ministeerium*), is the Agency in charge of the development of common information systems in the Estonian Administration. It coordinates and operates the main components of Estonia's national eGovernment infrastructure.

Ministry of Education and Research (*Haridus-ja Teadusministeerium*)

Within the framework of the '[Estonian Information Society Strategy 2013](#)', the Ministry of Education and Research (*Haridus- ja Teadusministeerium*) holds responsibility for several eInclusion measures relating to the improvement of skills and to widening possibilities for participation, notably for those referring to continuous upgrading of the knowledge and skills of all members of society development and to the promotion of internet-based learning environments (eLearning).

Ministry of Social Affairs (*Sotsiaalministeerium*)

Within the framework of the '[Estonian Information Society Strategy 2013](#)', the Ministry of Social Affairs (*Sotsiaalministeerium*) is responsible for the improvement of skills and widening of possibilities for participation, such as eLearning measures (responsibility is shared with the Ministry of Education and Research (*Haridus- ja Teadusministeerium*)) and the implementation of flexible work arrangements (including identification of barriers to teleworking and the development of solutions to overcome these).

Implementation

Estonian Broadband Development Foundation (*Eesti Lairiba Arenduse Sihtasutuse, ELA*)

The Estonian Broadband Development Foundation (*Eesti Lairiba Arenduse Sihtasutuse, ELA*) is a non-profit organisation, established on 11 August 2009 in the initiative of the Ministry of Economic Affairs and Communications (*Majandus-ja Kommunikatsiooni-ministeerium*) and by the members of Estonian Association of Information Technology and Telecommunications (*Eesti Infotehnoloogia ja Telekommunikatsiooni Liit, ITL*). The foundation is entrusted with the implementation of the 'Estonian Wideband Infrastructure Network' (EstWin) project, aimed at establishing a high-speed next-generation broadband network for citizens, businesses and the administration by 2015.

Estonian Informatics Centre (*Riigi Infosüsteemide Arenduskeskus, RIA*)

The Estonian Informatics Centre (*Riigi Infosüsteemide Arenduskeskus, RIA*), which is a subdivision of the Ministry of Economic Affairs and Communications (*Majandus-ja Kommunikatsiooni-ministeerium*), is responsible for the development of common information systems in the Estonian Administration. It 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).

Individual Ministries and the Government Office

In Estonia, the implementation of the Estonian Information Society strategy (including eInclusion related measures) requires the co-operation of ministries and the Government Office. In addition, active co-operation is pursued with organisations representing the private and third sector as well as research institutions.

Support

Estonian Association of Information Technology and Telecommunications (*Eesti Infotehnoloogia ja Telekommunikatsiooni, Liit*)

The Estonian Association of Information Technology and Telecommunications (*Eesti Infotehnoloogia ja Telekommunikatsiooni Liit, ITL*) is a voluntary organisation aimed at uniting the Estonian information technology and telecommunications companies and at promoting their co-operation in Estonia's development towards information society. Moreover, the organisation represents and protects the interests of its member companies and expresses their common positions. Their main activities include the popularisation of information and communication technology (ICT), the promotion of vocational education and the amendment of legislation. Among others, in April 2009, the association prepared the strategic document on a 'Development vision of next-generation broadband network in Estonia', aimed at proposing both an action plan and an organisational model for the transition to a modern broadband infrastructure in Estonia. This document is aimed at contributing to a better business and living environment in rural areas.

Look@World Foundation

The Look@World Foundation was created in 2001 by ten major companies of Estonia in order to increase the number of Internet users and thereby improve the living standards in Estonia, as well as the country's overall competitive position in Europe. Successful initiatives that have been carried out thus far

include basic computer training for 100 000 persons, creation of the [e-School](#) (eKool) environment and opening of more than 500 public Internet access points.

Estonian Foundation for the Visually Impaired (EFVI)

Established on 8 December 1997 by three private persons, the Estonian Foundation for the Visually Impaired (EFVI) is a not-for-profit organisation, aimed at promoting the integration of the visually impaired people to the society. Among other initiatives, the EFVI foundation is promoting eLearning among the disabled people in cooperation with the Estonian e-University.

eInclusion Who's Who

Main eInclusion decision-makers and executives

Ministers responsible for eInclusion



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eInclusion Areas

Riga Declaration Priorities

ICT & Ageing

Status in ICT & Ageing

Estonian policies related to vocational training are mainly oriented towards the unemployed and young people, and not specifically towards older people. Within the Ministry of Social Affairs (*Sotsiaalministeerium*), though, the topic of furthering educational training for older people and improving ICT skills of older employees is on the agenda. Similarly, eSkills of elderly citizens are being discussed within the digital divide context in the Ministry of Economic Affairs and Communications (*Majandus- ja Kommunikatsiooniministeerium*). Still, wider discourse among policy-makers and politicians is missing.

Statistics:

- ▶ 37 % of the persons in the age group of 50-74 years used the Internet in the last 6 months prior to the survey whereas only 6 % of non-working older persons used the internet.
- ▶ 33 % of workers use a PC at least once a week.

Public sector eServices are considered difficult to use by slightly more than a quarter of internet users in Estonia, in particular by those in the over-60 age group. Computer and internet training for the entire population has to continue (*Source: [Estonian Information Society Strategy 2013](#)*).

Actions to support ICT& Ageing

In 2007, the Ministry of Social Affairs (*Sotsiaalministeerium*) has introduced a **small grants scheme** for projects related to improving skills and increasing ICT- uptake by the elderly.

According to the '[National Report on Strategies for Social Protection and Social Inclusion 2008-2010](#)', 'web-based services and accessibility of ICT resources will be developed to reduce the **digital divide**, i.e., to improve accessibility and use of the web environment. The annual e-Inclusion project competition will support distribution of information on e-Inclusion, raising the level of information literacy and internet use, increasing the opportunities for e-learning, expanding the range and accessibility of public e-services, using ICT resources to increase employment rate, developing participatory democracy through IT solutions, and promoting information society at the regional and local level to prevent and reduce regional poverty and exclusion'.

Geographic Digital Divide

Status of Common Access to Electronic Content and Services

According to the '[Development vision of next-generation broadband network in Estonia](#)' document, Estonia is sparsely populated compared to other European regions, having approximately four times less people per square kilometre than the EU average, while population and labour force are decreasing at the fastest pace. Approximately 70 % of the population lives in towns, including 60 % of them in bigger cities with more than 10 000 residents. These urban regions play an important role in the economy, as they host the major part of businesses in the country (more than 92 % of the 500 largest companies in Estonia).

In larger cities, **broadband accessibility** has been progressing satisfactorily, thanks to a fierce competition, providing end-users with a wide selection of broadband services, including Internet

connections, connection services of IT systems provided to the business customers, as well as various multimedia services provided to the private customers. In contrast to this, broadband access in rural areas is more limited and the low quality does not enable all information society services to be used.

Moreover, according to the '[Europe's Digital Competitiveness Report 2010](#)', statistical data of the year 2009 show that the broadband penetration (as % of population) in Estonia is above the EU average for both households and enterprises featuring a score of 26.0 % (EU average being 24.8 %). DSL availability (coverage) in rural areas amounts to 80.0 %, which is also somewhat above the EU average of 79.7 %. However, despite the high connectivity, only 52 % of broadband subscriptions have speeds of at least 2 Mbps. Even though the use of 3G mobile phones for accessing the Internet has not yet taken off, wireless internet use on laptops is very widespread, with 28 % penetration (higher compared to 16 % in 2008).

Actions to support Common Access to Electronic Content and Services

Village Road 3 (*KülaTee 3*)

The 'Village Road 3' (*KülaTee 3*) project ran in the years 2005-2008 with the main objective to bring **internet connections** to sparsely populated areas of the country. This programme was a follow-up to previous 'Village Road 1' and 'Village Road 2' programmes, respectively aimed at bringing local government agencies and public libraries online. Though the primary goal was to ensure broadband Internet connectivity for 90 % of Estonia, an estimated share of 98 % of the country has eventually been achieved upon completion of this programme in May 2008.

Estonian Wideband Infrastructure Network (EstWin)

The goal of the state-funded project 'EstWin' is to bridge the digital divide between urban and **rural areas**, increase social cohesion and contribute to economic growth by putting in place a new high-speed next-generation broadband network in Estonia by the year 2015. This network infrastructure will feature a transmission speed of up to 100 Mbit/s and is intended to be used by citizens, businesses and administrations. Within the framework of the project, more than 6 000km of fiber-optical cables will be installed and more than 1 400 connection points will be constructed. Thereby, it will be ensured that 98 % of residential houses, businesses and authorities will be located closer than 1.5 km to the basic network.

eAccessibility

Status of eAccessibility

In the development of central portals, such as www.eesti.ee, www.riik.ee, etc, the WAI (Web Accessibility Initiative) guidelines have been followed. However, compliance to WAI standards still needs to be raised in individual public agencies. One of the main targets of the '[Estonian Information Society Strategy 2013](#)' has been that all public sector websites had to comply with Web Accessibility Initiative (WAI) quality criteria by 2010. This is part of a broader commitment that the information society 'is created for all Estonian residents, whereas particular attention is paid to the integration of social groups with special needs, to regional development and to the strengthening of local self-initiative.

Actions towards eAccessibility

In 2006, the Ministry of Economics [conducted a survey](#) on the **accessibility of public sector web sites**, based on the Web Content Accessibility Guidelines (WCAG). Out of 60 sites of different Estonian public authorities, only 4 met the elementary standards (6.67 %).

(Source: [State Information System](#), in Estonian)

Various accessibility surveys promoting the integration of the disabled

Various **accessibility surveys** have been organised by the Estonian Foundation of the Visually Impaired (EFVI), a non profit organisation, aimed at promoting the integration of the visually impaired people to the society. These have been 'one off' activities, as conducted for example, within the framework of the study on the 'Evaluation of the e-learning course of Estonian e-University' (2005), which tested the accessibility and usability of selected eLearning courses provided by different universities of Estonia. The Foundation also participated in further projects on eAccessibility monitoring, including surveys measuring the conformance of websites with eAccessibility guidelines.

Guidelines stressing compliance with the Web Content Accessibility Guidelines (WCAG)

According to the European Commission's '[Measuring progress of eAccessibility in Europe](#)' (MeAC) study, first published in October 2007, the Department of State Information Systems (*Riigi infosüsteemide, RISO*) of the Ministry of Economic Affairs and Communications (*Majandus- ja Kommunikatsiooniministeerium*) has approved guidelines concerning the State IT Architecture and Interoperability. According to the Guidelines, all public organisations shall follow the **Web Content Accessibility Guidelines** (WCAG). However, the document is not obligatory and no sanctions are foreseen.

Digital Literacy and Competences

Status on Digital Literacy and Competences

According to the '[Europe's Digital Competitiveness Report 2010](#)', in 2009, 54 % of the population has been frequent internet users (using the internet every day or almost every day) while a total of 67 % used the internet at least once a week. On the other hand, the statistics show that 26 % of the population has never used the internet before.

Internet use does not solely depend on the availability of infrastructure, or the price of service, but, to a considerable extent, also on **motivation** – the existence of useful and necessary content as well as awareness of opportunities the information society offers. Furthermore, for some non-users the use of the Internet is restricted due to insufficient consideration of their specific (i.e. regional, cultural and social) needs and expectations. A significant part of non-users, in particular, the skilled labour and the elderly, lack motivation to use ICT due to the shortage of interesting and useful content. Consequently, they do not regard Internet as part of their lives. Survey results indicate that eHealth and other social services have strong potentials of boosting motivation to use the internet and eServices.

Actions towards stimulating Digital Literacy and Competences

The Look@World Foundation

The Look@World Foundation has organised one of the major initiatives that has been focused on bridging digital gap, the 'Look@World Internet Training Project'.

Digital Literacy actions by the Ministry of Social Affairs

In 2007, the Ministry of Social Affairs (*Sotsiaalministeerium*) has introduced **small grants** for projects upgrading skills of the disadvantaged groups, like the disabled, the elderly or children. Continuous upgrading of knowledge and skills of all members of society is carried out (mainly by non-governmental institutions) in order to ensure their ability to cope in the information society. Providing basic computer and internet training for the elderly and people with special needs shall continue.

'Come Along!' Project

Launched in 2009, the 'Come Along!' (*Ole Kassas!*) project is intended to help bridging the **digital gap** in the society by facilitating Internet use (free training, discounted computer and Internet connection). To this end, the project will provide basic and advanced computer training to 100 000 people, while connecting 50 000 more families to the Internet over the next three years.

The target group of the project includes members of the Estonian as well as Russian communities without the skills and opportunities to use the Internet, primarily: families with children; the rural population; the older generation; people on low and medium income.

'Come Along!' focuses on:

- ▶ **Training and user assistance** - basic and advanced Internet training and mentor programme
- ▶ **Hardware** - affordable new or used computer for new Internet-users, free computers as a special project
- ▶ **Connection** - reasonably-priced wireless or broadband Internet.

The 'Come Along!' was launched by several IT operators and the look@world foundation in the framework of the ['My Estonia'](#) initiative. 'My Estonia' is a civic initiative designed to find creative and **effective solutions** to topical issues that can be implemented through joint efforts. Several government ministries and agencies such as the Estonian Informatics Centre (*Riigi Infosüsteemide Arenduskeskus*, RIA) are among the partners of 'My Estonia'.

'Tiger Leap' Programme

The 'Tiger Leap' programme is a national specific programme launched by the Estonian President in 1996 with the aim to increase Estonian **school education** quality by utilising modern information and communication technology. The programme has been funded by the national budget via the Ministry of Education. By today the 'Tiger Leap' programme 1997–2000 and 'Tiger Leap Plus' development plan 2001–2005 have been put into practice. Both programmes supported the innovative eLearning initiatives of schools, universities and other organisations. While the former programme focused on the update of school ICT infrastructure, the latter one highlighted the necessity of ICT competencies for all students and teachers.

The focus of the [Learning Tiger development plan 2006-2009](#) was mainly placed on **eLearning** as well as on the development of various related content services. The main objective of this development plan has been to increase curriculum quality and effectiveness utilising ICT and introducing eLearning as a part of daily curriculum.

The 'Tiger Leap' programme gave the Estonian IT a strong kick-start by producing IT-savvy students from every Estonian school in one fell swoop. At the same time, it sparked the creation of IT jobs and stimulated the demand for eServices.

e-School

e-School (*eKool*) is a web-based school-home communication environment. It was launched, in 2003, in order to engage parents more actively in the study process, make information on subjects more available to children as well as to parents, and to facilitate the work of teachers and of school management. The platform facilitates the follow-up of marks given to students, their absence from classes, the content of lessons, as well as homework and assessments given to students by teachers at the end of the study period. There have already been 430 schools across Estonia using eSchool, which corresponds to 67 % of schools in Estonia.

Inclusive eGovernment

Status on Inclusive eGovernment

According to ['Europe's Digital Competitiveness Report 2010'](#), in eGovernment, Estonia performs above the EU average with high levels of online availability, user friendliness, and sophistication. 83 % of public services for citizens are available online; for enterprises the figure corresponds to 100 %. However eGovernment take-up, having achieved a mark of 44 % among citizens and 79 % among businesses, even though increasing, has not yet been as high.

Progress on inclusive eGovernment involves:

- ▶ Innovative mindset in the public sector and its high-quality IT solutions:
 - service-oriented approach to the development of state information systems and a secure data exchange layer called the X-Road, which constitute the cornerstones of the known as common service space;
 - single-point-entry to the state at www.riik.ee;
 - citizen portal at www.eesti.ee reflecting the state as an integral whole, where authorised users have three possible roles: that of the citizen, the entrepreneur and the official.
- ▶ The largest functioning **public key infrastructure** in Europe based on the use of electronic certificates maintained on the national ID card and allowing to considerably improving the security and functionality of IT solutions. More than 80 % of the population possess the ID card that enables both electronic authentication and digital signing. Relevant legislation is in place, giving the digital signature equal power with the handwritten one, and imposing a responsibility on public authorities to accept digitally signed documents.

Actions towards Inclusive eGovernment

- ▶ At local government elections of 2005, the Estonians could, for the first time, cast their votes electronically, using the secure ID card as an authentication mechanism. eVoting does not aim to replace the traditional voting methods, but provides, with the help of new technology, additional options for enhanced inclusion. Thus, people could vote electronically on advance polling days with a possibility to change their vote on the election day at the polling station, making the previously given eVote void. eVoting was used in the general elections in March 2007.
- ▶ The technology called the X-road has been developed in order to enable cross-usage of different institutions' databases in a single portal. With this approach, the creation of a single nationwide mammoth database can be avoided. This is an effective modular construction ensuring that no single critical point exists, which might compromise the entire system. Moreover, a breach in one system does not endanger others. The X-road also helps Estonia to avoid the emergence of development monopolies, since the state is not dependent on any single developer. This improves competition within the country but also guarantees the existence of multiple, high-capability IT companies in the country.
- ▶ Continuous development of the Citizen portal at www.eesti.ee. For citizens, the portal serves as a secure personalized 'virtual office', through which they can, in their different roles, manage their affairs (use public services etc.) and communicate with the state, enterprises and other citizens. All public sector services will be made available via the Citizen portal in the near future.
- ▶ Continuous widening of opportunities for participation in the decision-making process (eDemocracy). Ministries and local governments will develop internet-based environments for the inclusion of citizens and interest groups in decision-making processes. In addition, eVoting will continue to be used.
- ▶ About 600 Public Internet Access Points have been established throughout Estonia, many of them located in public libraries, enabling every citizen to surf online for free.

The Future of eInclusion

Research in Practice & Future Challenges

Research in Practice

National Projects

Research projects carried out by the Department of Journalism and Communication at the University of Tartu

The [Department of Journalism and Communication](#) (*Ajakirjanduse ja kommunikatsiooni instituut*) has been carrying out many academic research projects in the area of media systems and usages, integration, transition, relationships between individuals and society etc.

The Department has also been studying the usage of different information and communication technologies among different socio-demographic groups, their abilities to digest the large amount of information provided. Their studies on the usage of new media have been carried out over a long period. Efforts have also focused on eVoting in Estonia and its possible social impacts.

Some research has been funded by the Estonian Science Foundation (*Sihtasutus Eesti Teadusfond*, ETF); the Ministry of Education and Research (*Haridus- ja Teadusministeerium*) through Target Funding. The Department of Journalism and Communication (*Ajakirjanduse ja kommunikatsiooni instituut*) has been involved in many international research projects and has made a lot of presentations in international scientific conferences.

Study on the Digital Divide in Estonia

The objectives of the research project were:

- ▶ to identify the societal and social factors that inhibit the engagement of new users of information and communication technologies into the information society;
- ▶ to identify those population segments in Estonia that represent a much lesser use of computers and the Internet when compared to their active ICT users reference group, and to clarify the needs, attitudes, prejudices and expectations towards ICT products and services;
- ▶ to identify relevant and effective arguments and channels for the communication of ICT products and services to the above-mentioned segments.

This extensive and original research was carried out in Estonia in 2002.

The research and policy-analysis project was carried TNS Emor and PRAXIS Center for Policy Studies at the order of, with funding from and in direct partnership with the Look@World Foundation, the Open Estonia Foundation, and the State Chancellery in 2002. The study was co-financed by the infoDev Program of the International Bank for Reconstruction and Development, and the Open Society Institute-Budapest.

More info available at: Tarmo Kalvet, Digital Divide in Estonia and How to Bridge It. Executive Summary, Policy Analysis No 1, Tallinn: PRAXIS, 2002, <http://www.praxis.ee/index.php?id=150&L=1>

Second study on Digital Divide in Estonia

The objective of the study was to identify attitudes of those who use little or no Internet and identify factors which limit the use of Internet. The study was carried out in the form of focus group interviews combined with quantitative data. The study found that among 15-74 years old, 70 % used internet, of whom 61 % had used it in the past 7 days. The Internet was mostly used as a communication platform, for finding information and using bank services. The Internet has neither yet been perceived, especially among the elderly, as an irreplaceable communication tool, nor does it entirely replace other media.

Most important barriers, which were identified, were: lack of skills for finding useful information, lack of computer and internet skills (language barrier was also identified here), affordability of equipment and connection (costs of which were sometimes overrated) and knowledge of available content. The study proposed measures to improve affordability along with increasing knowledge of the related costs, increasing knowledge of content along with improvement of services, including services in other languages, especially Russian. To involve the elderly the study suggested using existing social networks. To involve the disabled, the study suggested using combined measures in order to tackle different barriers together.

European Commission - eInclusion Practice

eInclusion practice (epractice.eu) is an information and exchange service for European professionals.

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

The eInclusion factsheets are produced and updated once a year.

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