

Digital Public Administration factsheet 2020

Iceland

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1 Country Profile

1.1 Basic data

Population: 356 991 inhabitants (2019)

GDP at market prices: EUR 21 602 million (2019)

GDP per inhabitant in PPS (Purchasing Power Standard EU 27=100): 130 (2019)

GDP growth rate: 1.9% (2019) **Inflation rate**: 2.0% (2019) **Unemployment rate**: 3.5% (2019)

General government gross debt (Percentage of GDP): No data available General government deficit/surplus (Percentage of GDP): No data available

Area: 103 000 km² Capital city: Reykjavik

Official EU language: Icelandic

Currency: ISK

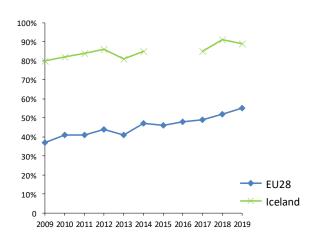
Source: Eurostat (last update: 26 June 2020)

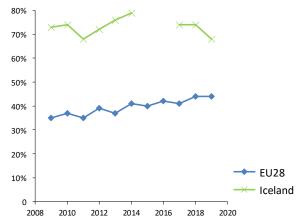
1.2 Digital Public Administration Indicators

The following graphs present data for the latest Generic Information Society Indicators for Iceland compared to the EU average. Statistical indicators in this section reflect those of Eurostat at the time the Edition is being prepared.

Percentage of individuals using the internet for interacting with public authorities in Iceland

Percentage of individuals using the internet for obtaining information from public authorities in Iceland



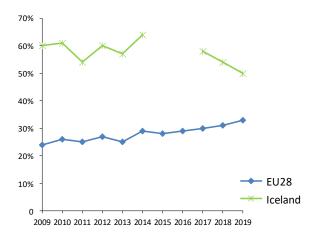


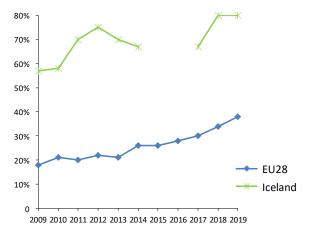
Source: Eurostat Information Society Indicators

Source: Eurostat Information Society Indicators

Percentage of individuals using the internet for downloading official forms from public authorities in Iceland

Percentage of individuals using the internet for sending filled forms to public authorities in Iceland



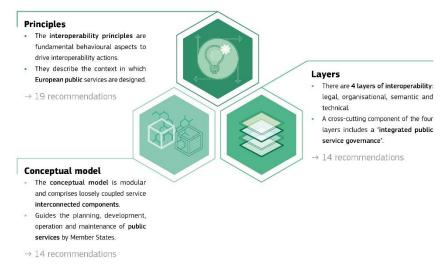


Source: Eurostat Information Society Indicators

Source: Eurostat Information Society Indicators

1.3 Interoperability State of Play

In 2017, the European Commission published the European Interoperability Framework (EIF) to give specific guidance on how to set up interoperable digital public services through a set of 47 recommendations. The picture below represents the three pillars of the EIF around which the EIF Monitoring Mechanism was built to evaluate the level of implementation of the EIF within the Member States. It is based on a set of 68 Key Performance Indicators (KPIs) clustered within the three main pillars of the EIF (Principles, Layers and Conceptual model), outlined below.



Source: European Interoperability Framework Monitoring Mechanism 2019

For each of the three pillars, a different scoreboard was created to breakdown the results into their main components (i.e. the 12 principles of interoperability, the interoperability layers and the components of the conceptual model). The components are evaluated on a scale from one to four, where one means a lower level of implementation, while 4 means a higher level of implementation. The graph below shows the result of the first EIF Monitoring Mechanism data collection for Iceland in 2019. It is possible to notice that not enough data was collected to measure the overall performance of the country. The areas with positive results are administrative simplification and user centricity.



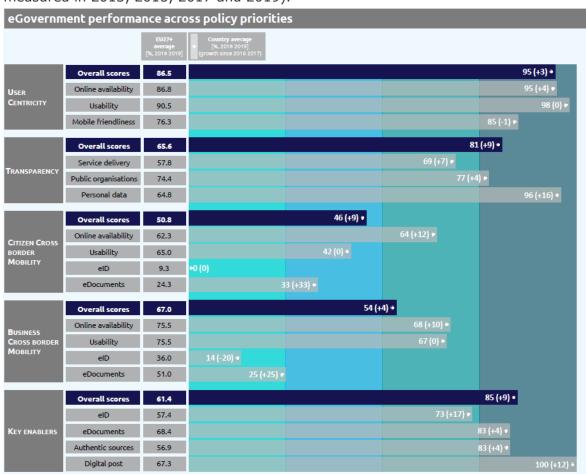
Source: European Interoperability Framework Monitoring Mechanism 2019

1.4 eGovernment State of Play

The graph below is the result of the latest eGovernment Benchmark report, which evaluates the priority areas of the eGovernment Action Plan 2016-2020, based on specific indicators. These indicators are clustered within four main top-level benchmarks:

- User Centricity indicates the extent to which a service is provided online, its
 mobile friendliness and usability of the service (in terms of available online
 support and feedback mechanisms).
- **Transparency** indicates the extent to which governments are transparent about (i) the process of service delivery, (ii) the responsibilities and performance of public organisations and (iii) the personal data processed in public services.
- Cross-Border Mobility indicates the extent to which users of public services from another European country can use the online services.
- **Key Enablers** indicates the extent to which technical and organisational preconditions for eGovernment service provision are in place, such as electronic identification and authentic sources.

The 2020 report presents the biennial results, achieved over the past two years of measurement of all eight life events used to measure the above-mentioned top-level benchmarks. More specifically, these life events are divided between six 'Citizen life events' (Losing and finding a job, Studying, Family life, all measured in 2012, 2014, 2016 and 2018, and Starting a small claim procedure, Moving, Owning a car, all measured in 2013, 2015, 2017 and 2019) and two 'Business life events' (Business startup, measured in 2012, 2014, 2016 and 2018, and Regular business operations, measured in 2013, 2015, 2017 and 2019).



Source: eGovernment Benchmark Report 2020 Country Factsheets



2 Digital Public Administration Highlights

Digital Public Administration Political Communications

In February 2020, a status report on public procurement and a policy draft has been posted on the governmental consultation portal. The policy draft emphasizes use of eProcurement and data for sound and sustainable public procurement.

In June 2019, Iceland became the first country to sign a contract which will make Microsoft the sole IT supplier for its entire public sector. The country teamed up with a single IT partner for the provision of a common cloud platform.

In May 2019, the government agreed to implement an Action Plan for the promotion of digital public services, valid until the end of 2020.

Digital Public Administration Legislation

In June 2019, the Act No. 55/2019 and subsequent regulations No. 100/2020 and No. 310/2020 transposed the eIDAS Regulation into Icelandic law.

In June 2019, the Act No. 78/2019 transposed into national law the NIS Directive 2016/1148/EU. The Act redefined the cyber security strategy of Iceland approve in 2015 and will enter into force on 1 September 2020.

Digital Public Administration Governance

There have been no changes in Digital Government Governance in the reporting year.

Digital Public Administration Infrastructure

The Financial Management Authority has a contract with three service providers and has been authorised to become a PEPPOL Authority (PA).



3 Digital Public Administration Political Communications

3.1 Specific political communications on digital public administration

Policy and Action Plan 2018-2020

In 2018, all ICT affairs within the government were moved to the Ministry of Finance and Economic Affairs, although cybersecurity is managed by the Ministry of Transport and Local Government. A special taskforce was established under the name of Digital Iceland. The focus for 2018-2020 is:

- increasing self-services through the national portal Island.is;
- strengthening the IT infrastructure;
- increasing public agencies cooperation with the help of IT e.g. cloud solutions.

In May 2019, the government agreed to implement an action plan for the promotion of digital public services, valid until the end of the year 2020.

The action plan has eight focus points and covers the promotion of digital services, increased access to and use of digital services, changes in the legal framework to support digital services and enhanced ministerial cooperation, prioritisation of projects and financial resources:

- 1. self-services: increase self-services through Island.is, which includes users accessing services independently of any public entity providing it;
- 2. access to data: offer individuals direct access to all personal data provided by the public to Island.is, as well as an overview on the use of the data. This will take advantage from recent years' technological developments to generate value and useful information from the data that the State possesses, for example, with the help of artificial intelligence. The innovation infrastructure will be enhanced by collecting data that will be made available to both the scientific community and the unemployed;
- 3. electronic authentication: ensure the issuing of eID by public bodies;
- 4. public procurement, development and operation across the public sector: reduce the number of information technology operators by combining operations in special service centres;
- 5. centre of excellence: based on the Digital Iceland task force, a special digital services unit, resulting from the development of digital services, will be promoted and made permanent;
- 6. promotion and active participation of ministries: each ministry, together with their agencies, develops a comprehensive programme on the implementation of digital services and on an improved prioritisation of resources. Furthermore, coordination between ministries will be promoted;
- 7. targeted funding and priorities: ensure that a larger contribution to the development of information technology and digital services is transferred to one fund. Furthermore, resources for the development of IT services will be increased within the framework of the financial plan;
- 8. independent technical law-making: laws and regulations need to be amended in order to support the widespread use of digital public services. Changes in the legal environment will be completed in 2020.

Digital Iceland

Digital Iceland will be published in 2020 and will set the framework for the projects carried out under the leadership of both the Ministry of Local and Economic Affairs and the task force Digital Iceland, in cooperation with all agencies, municipalities, ministries and enterprises. The strategy is an important part of the government's plan on improved

digital communication to the public. It also supports the objectives defined in the Nordic/Baltic Partnership, as stated in the Digital North Declaration. To ensure progress in the wide range of projects planned for the next two years, a tender was published in December 2019. The request was for IT teams to design and program the service Island.is, to connect agencies to the national data exchange platform Straumurinn, and to develop service processes both for the general public and businesses.

Digital North

The ministerial declaration Digital North was signed in 2017 by the Ministers for Digital Development of Norway, Sweden, Denmark, Finland, Iceland, Faroe Islands, Greenland, Åland, Estonia, Latvia and Lithuania. The declaration supports the policy goal of making the Nordic-Baltic region a digital frontrunner by:

- strengthening the digital transformation potential of governments and societies, especially by creating a common area for cross-border digital services in the public sector;
- strengthening enterprises' competitiveness through digitalisation;
- enhancing the digital single market in the Nordic-Baltic region.

The Digital North declaration aims to increase the collaboration among countries and to develop joint infrastructure projects, such as the 5G mobile technology and the use of AI.

This year, the Digital North declaration 2.0 will be finalised for the years 2021-2024. The text is in line with the Vision 2030 for the Nordic countries.

Iceland Rural Fibre Project

The Iceland Rural Fibre Project is a short-term government initiative to bring 100 Mb/s wired internet to 99.9% of households and businesses nationwide by the end of 2020. The State contributes to the funding of the project, and local governments can apply for subsidies that depend on their own contributions. The project is overseen by the Telecommunications Fund. Fibre network installation outside residential areas also plays a role in upgrading core communications systems nationwide, which is a prerequisite for greater reliability, coverage, and data transmission speed across all mobile networks outside densely populated areas. The project is on schedule.

3.2 Interoperability

A unique IT supplier for the entire public sector

On 1 June 2019, Iceland became the first country to sign a contract which will make Microsoft the sole IT supplier for its entire public sector. The country teamed up with a single IT partner for the provision of a common cloud platform: Microsoft 365. The introduction of Microsoft 365 aims to consolidate all services into a single license, while guaranteeing increased communication and collaboration between institutions. Peter Quarfordts Skov, Public Sector Director at Microsoft Denmark & Iceland, commented that the contract marked a shift in the way public sector and public services are perceived. He added that, as more countries digitalise their public services, there is an increasing need to enhance services, products and processes, not to mention the level of security. Even though the decision should lead to an increased interoperability

National Interoperability Framework

National research on how to improve interoperability has indicated that interoperability can only be enhanced through comprehensive harmonisation and communication between systems, suggesting the need for new strategies and corresponding frameworks. Several parties, led by the Ministry of Finance and Economic affairs, are involved in the establishment of a framework including all government levels, public

among different public bodies, the risk of a vendor lock-in is higher.

institutions and private entities. As reported in chapter 6.3, Iceland has adapted the X-Road data exchange layer which is based on API structure. The aim is to connect all IT systems that need to exchange data to increase interoperability between government agencies.

3.3 Key enablers

3.3.1 Access to public information

No political communication has been adopted in this field to date.

3.3.2 eID and Trust Services

NOBID

Iceland is a member of the Nordic-Baltic cooperation project (NOBID) on supporting the implementation and use of the national eID infrastructure. The stated goal of the NOBID project is to offer citizens and businesses borderless access to digital services throughout the Nordic-Baltic region using their own national eIDs. The project aims at identifying both technical and legal barriers and setting the requirements for enabling interoperability both nationally and in a Nordic and Baltic context.

3.3.3 Security aspects

National Cyber Security Strategy 2015 - 2033

The first Icelandic cyber security strategy was introduced to the government and Parliament in 2015 by the Minister for the Interior. The strategy was meant to cover the period 2015 – 2026. The strategy established the Cyber Security Council, which was assigned a key role in implementing the strategy and its action plan. It is composed of representatives from ministries and authorities in charge of cyber-related issues. It has proven to be a very useful platform for information exchange and coordination. Furthermore, the strategy established the Cyber Security Forum, to act as a platform for cooperation between the public and private sectors.

In June 2019, the Parliament of Iceland agreed on a parliamentary resolution put forward by the government containing new strategies for cyber security, as well as for communication, postal services and Registers Iceland. The resolution was prepared by the Minister for Transport and Local Government, who is responsible for cyber security within the government. This new cyber security strategy is valid for the years 2019 – 2033 and therefore replaces the previous one. The Parliament also approved a corresponding resolution containing an action plan for the same time period. The new

strategy pursues similar goals to the previous one, but it has more political weight as it was put forward by the government and approved by parliament.

A secure cyber space is considered one of the main cornerstones of economic prosperity in Iceland. Iceland shall be prepared to detect and respond to cyber threats, tackle cybercrime, attacks, espionage and the abuse of personal and commercial data. The new action plan focuses on:

- 1. capacity building, with improved analytical and response capabilities, based on risk management and resilience;
- 2. cyber security by default, covering purchases as well as development;
- 3. cyber security awareness, to be improved by general and targeted campaigns, events and competitions;
- 4. education and research, covering both domestic and international activities and cooperation;
- 5. cooperation and coordination between ministries, authorities and with the private sector;
- 6. international commitments and cooperation, including ensuring a proper legal framework and addressing security issues;
- 7. assessment of progress based on the evaluation report from the Oxford University and on other external evaluations such as those by the ITU and the NCSI.

3.3.4 Interconnection of base registries

No political communication has been adopted in this field to date.

3.3.5 eProcurement

Public Procurement - Ranking and Options

In February 2020, a status report on public procurement and a policy draft were posted on the government consultation portal. The policy draft emphasised the use of eProcurement and data for sound and sustainable procurement. The policy draft also stressed the need to increase the use of digital sourcing and information technology for data analysis and joint purchasing.

3.4 Domain-specific political communications

No political communication has been adopted in this field to date.

3.5 Emerging technologies

Status Report on AI

In February 2019, a committee appointed by the Prime Minister delivered a status report and suggested an action plan for the government concerning the fourth industrial revolution. The report concluded that Iceland is well placed to deal with the development and use of artificial intelligence due to the following elements:

- citizens have high trust in public bodies and businesses operating in public services;
- public bodies and businesses are technically advanced and IT based;
- the public sector possesses technological infrastructures and has been collecting data for several decades;
- institutions have based their activities on IT and access to knowledge;
- good cooperation between employers' associations, labour unions and the government facilitates the reorganisation of the labour market, adapting it to the changes brought about by the fourth industrial revolution.

The status report pointed out that, as the Icelandic community is characterised by trust and respect for fundamental values such as human rights and privacy, it is necessary for the government to develop an artificial intelligence policy which preserves the rights and freedoms of the individuals.

The government should focus on the following guiding principles:

- the development of artificial intelligence should respect the society's moral values as well as human rights and democracy;
- the development and use of artificial intelligence should guarantee the integrity and fairness of communication and decision-making processes;
- artificial intelligence research, development and use should promote and ensure responsible and trusted solutions. The inspectors should assure that artificial intelligence is operated in accordance with the principles of responsibility and trustworthiness;
- security should be guaranteed throughout the development, operation and control of systems that use artificial intelligence.



4 Digital Public Administration Legislation

4.1 Specific legislation on digital public administration

Information Act

The Information Act was approved by the Parliament at the end of 2012 and came into force on 1 January 2013. Its objective is to guarantee transparency in government administration and in the handling of public interests, inter alia with the purpose of strengthening the following aspects:

- right to information and freedom of expression;
- public participation in a democratic society;
- checks and balances provided by the media and the public on government authorities;
- media communication on public affairs;
- public trust in government administration.

This act applies to all government activities and private entities owned by the state (51% of shares or more).

After the adoption of Act No. 140/2012, the Information Act No. 50/1996 only applied to municipalities with fewer than 1 000 citizens until 1 January 2016.

Administrative Procedures Act

On 10 March 2003, the Administrative Procedures Act (No.37/1993) was amended (No.51/2003), adding a special chapter on the electronic activities performed by the Public Administration. Through this amendment, general obstacles to the development of electronic administration were removed. While formulating the amendment, the responsible committee was guided by the concept of equivalent value, and also emphasised the need to maintain technical impartiality. The changes included permission – and not obligation - for the electronic handling of governmental administration cases.

4.2 Interoperability

No legislation has been adopted in this field to date.

4.3 Key enablers

4.3.1 Access to public information

Re-use of Public Sector Information (PSI)

Conditions on the reuse of public sector information are partly covered by the Information Act (No.50/1996). The Act defines public access to information and the restrictions on the right to information. With respect to the European Directive on the reuse of Public Sector Information (PSI Directive, 2003/98/EC), the Act includes almost all items with the exception of access and reuse of information through electronic means such as databases.

4.3.2 eID and Trust Services

Transposition of eIDAS regulation

The eIDAS Regulation 2014/910/EU is a European legal act setting rules for a secure and seamless use of electronic identification and electronic transactions in the European

Single Market. The eIDAS Regulation has been transposed into Icelandic law with the Act on Electronic Identification and Trust Services for Electronic Transactions No. 55/2019 and associated regulations No. 100/2020 and No. 310/2020.

Supporting legislation comes from the Electronic Commerce Act 2002, the Administrative Procedures Act, as amended in 2003 and the Public Procurement Act as amended in 2019.

4.3.3 Security aspects

Act No. 90/2018 on Data Protection

The Act No. 90/2018 on data protection and the processing of personal data has transposed into national law the General Data Protection Regulation 2016/679/EU. The act is enforced by the Data Protection Authority, which is responsible for the supervision of all processing operations covered by the Act on the processing of personal data.

The NIS Directive

In June 2019, the Icelandic Parliament adopted Act No. 78/2019, regarding cyber security, based on the NIS model. The act redefined Iceland's cyber security strategy, approved in 2015, and will enter into force on 1 September 2020. The act also defined the legal framework which the Cyber Security Council shall act within in order to implement the new strategy and action plan.

4.3.4 Interconnection of base registries

No political communication has been adopted in this field to date.

4.3.5 eProcurement

Act on Public Procurement

The act No. 120/2016 and subsequent regulations replaced an older act No. 84/2007 and implemented three Directives 2014/25/EU, 2014/24/EU and 2014/23/EU. All relevant provisions for eProcurement have been implemented, such as eNotice, eAccess, eSubmission, eEvaluation and eAward. A provision for trusted electronic signatures was added to the act in 2019 as well as a provision for eInvoice acceptance by all government agencies based on a new standard EN 16931.

4.4 Domain-specific legislation

Act on Electronic Commerce and other Electronic Services

The Act on Electronic Commerce and other Electronic Services No. 30/2002 states that electronic contracts are equivalent to written contracts and that electronic services provided by a service provider established in Iceland shall conform to Icelandic law on the establishment and operation of the service. The Act does not apply to electronic services relating to taxation. However, in this field, there are two main acts applying to electronic commerce: the Income Tax Act No. 90/2003, and the Value Added Tax Act, No. 50/1988. According to the former, a legal entity is taxable in Iceland if it is domiciled in this country. The latter introduced several special provisions concerning imports.

eInvoicing

In January 2019, the national Regulation 44/2019 stipulated that all public entities shall accept eInvoices according to the standard EN 16931 for contracts covered by the act on public procurement. Furthermore, the Ministry of Finance and Economic Affairs has declared that governmental agencies only accept elnvoices since 1 January 2020. The

Financial Management Authority has a contract with three service providers and has been authorised to become a PEPPOL Authority (PA).

4.5 Emerging technologies

No legislation has been adopted in this field to date.



5 Digital Public Administration Governance

5.1 National

5.1.1 Policy

Ministry of Finance and Economic Affairs

The Ministry of Finance and Economic Affairs is responsible for the formulation of the policy on digital transformation. There is an extensive collaboration and consultation with other governmental bodies and actors.

In 2017, all ICT affairs within the government were transferred to the Ministry of Finance and Economic Affairs, although cyber security is governed by the Ministry of Transport and Local Government. In 2018, the Ministry of Finance and Economic affairs established a special taskforce, Digital Iceland, for the coordination and execution of core projects.



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Source:https://www.government.is/ministries/ministry-of-finance-and-

economic-affairs/

The primary role of the Ministry of Finance and Economic Affairs is to manage public finances and economic affairs. The Ministry is responsible for financial market issues, improving corporate governance and planning. It actively manages the State's human resources and takes the lead in improvements and innovation in central government operations. The Minister directs all operations and is responsible for all the Ministry's administrative decisions.

The Ministry of Finance and Economic Affairs includes five departments: the Minister's Secretariat, the Department of Economic Affairs and Financial Services, the Department of Fiscal Affairs, the Department of Taxation and the Department of Public Management and Reform. The IT affairs are under the Department of Public Management and Reform. Two other departments, the Legal and the Administrative Departments, operate on an interdepartmental basis. A special section, the Employment and Human Resources, is responsible for the State's human resources on behalf of the Minister.

Ministry of Industries and Innovation

The Ministry of Industries and Innovation (MII) covers all sectors of ordinary business and economic activity. The ministry's main goal is to pave the way for a vigorous and forward-looking economy. The ministry is responsible for all electronic business relations and therefore also for eIDAS incorporation.

Ministry of Transport and Local Government

The Ministry of Transport and Local Government is responsible for telecommunications, digital communication, internet security and postal services, as well as local government administration, regional policy, citizens' registration and property and real estate valuation.

5.1.2 Coordination

Digital Iceland – A taskforce under the Ministry of Finance and Economic affairs

The Digital Iceland taskforce is a special unit within the ministry that coordinates digital matters in the public sector.

5.1.3 Implementation

Digital Iceland – A taskforce under the Ministry of Finance and Economic affairs

The Digital Iceland taskforce is a special unit within the ministry that manages the implementation of digital projects with the aim of providing better digital services to citizens.

5.1.4 Support

Digital Iceland – A taskforce under the Ministry of Finance and Economic affairs

The Digital Iceland taskforce is a special unit within the ministry that provides support to public entities regarding digital matters and the implementation of digital projects with the aim of providing better digital services to citizens.

5.1.5 Interoperability coordination

Ministry of Finance and Economic Affairs

The main body responsible for interoperability activities in Iceland is the Ministry of Finance and Economic Affairs.

5.1.6 Base registry coordination

Registers Iceland

Registers Iceland is the Icelandic State's registry of base registries, in particular it gathers data on individuals and real estate. Registers Iceland records certain basic information on all persons who are or have been domiciled in Iceland and Icelandic citizens residing abroad, as well as changes in their status. The real estate register contains all the basic information on properties, land and waste, as well as structures that are on them. It includes real estate and fire insurance assessments, the property surface area, and the property reference number. Registers Iceland gathers information through citizens' and public bodies' notification.

5.1.7 Audit

National Audit Office

The National Audit Office is mandated by the Parliament to oversee the State finances, its institutions and state enterprises. The office monitors the State's revenues and verifies whether appropriations and assets are used and allocated in an efficient and proper manner, in accordance with the Parliament's conditions and decisions.

5.1.8 Data Protection

Icelandic Data Protection Authority (DPA)

Pursuant to Chapter VI of Regulation (EU) 2016/679, the Data Protection Authority is a supervisory body which shall oversee the implementation of the Regulation, of Act No. 90/2018, and of special legal provisions concerning the processing of personal data and other related rules.

The Data Protection Authority is an independent body managed by a special Board of Directors. The Data Protection Commissioner is responsible for and oversees the Authority's daily activities, financial matters and operations as well as personnel recruitment.

Cyber Security Council

The Cyber Security Council was established in 2015 and has a key role in implementing the cyber security strategy and its action plan. It is composed of representatives from ministries and authorities having a key role in cyber related issues. It has proven to be a very useful platform for information exchange and coordination, when needed. Furthermore, another body was established, the Cyber Security Forum, to act as a platform for cooperation between the public and private sectors.

5.2 Subnational (federal, regional, local)

5.2.1 Policy

Association of Local Authorities

The Icelandic Association of Local Authorities is a cooperation forum between local authorities. The association was established in 1945 and, since 1973, all Icelandic local authorities have been members of the association.

The association aims to defend local interest with the government and other parties in national and international matters. It formulates common policies on specific issues and therefore works closely with both government and parliament. A special cooperation agreement is in force between the association and the government, containing formal provisions on their relations.

5.2.1 Coordination

Association of Local Authorities

The Icelandic Association of Local Authorities is responsible for the coordination of the digital policy at subnational level.

5.2.2 Implementation

Association of Local Authorities

The Icelandic Association of Local Authorities is responsible for digital policy implementation at subnational level.

5.2.3 Support

Association of Local Authorities

The Icelandic Association of Local Authorities is responsible for providing support in the implementation of the digital policy at subnational level.

5.2.4 Interoperability coordination

No responsible organisations have been reported to date.

5.2.5 Base registry coordination

Registers Iceland

Registers Iceland is the Icelandic State's registry of base registries, in particular it gathers data on individuals and real estate. Registers Iceland records certain basic information on all persons who are or have been domiciled in Iceland and Icelandic citizens residing abroad, as well as changes in their status. The real estate register contains all the basic information about properties, land and waste, as well as structures that are on them. It includes real estate and fire insurance assessments, the property surface area, and the property reference number. Registers Iceland gathers information through citizens' and public bodies' notification.

5.2.6 Audit

No responsible organisations have been reported to date.

5.2.7 Data Protection

Icelandic Data Protection Authority (DPA)

The Data Protection Authority is responsible for data protection matters at subnational level.



6 Digital Public Administration Infrastructure

6.1 Portals

6.1.1 National Portals

Island-island.is

The national portal Island.is is the point of reference for public digital service for all citizens and businesses. It contains references to digital services on websites of all public organisations in Iceland. Each service is displayed as an information box on the homepage of the portal. There are also clear search options to help users find the services they need. This functionality provides easy access to digital public services and forms to fill out.

The portal also operates as a toolbox, developing tools which are of use to all public bodies. These include centralised authentication, digital document delivery (C2G and B2G), digital document distribution (G2C and G2B) and a digital service layer.

The portal includes a section called MyPages, for all Icelandic citizens, where they can access information about themselves in key registers and digital documents from public bodies. There is also a digital mailbox that all public authorities can use to send e-mail to citizens. In order to access MyPages and the digital mailbox, users have to identify themselves with one of two available authentication methods.

Governmental Portal

The Governmental portal is a website that allows citizens and businesses to be redirected to all Icelandic ministries. It contains information and online connection to all government departments (i.e. ministries and directorates).

Open data portal

From an international point of view, Iceland is lagging behind in terms of open data availability. Iceland has not yet published a strategy in this area. Despite the existence of the Service Portal opingogn.is, there is limited information on data use and on the value it has generated. However, it is worth mentioning that there are no legal obstacles in Iceland to the publication of open data, which is one of the basic prerequisites for their use. With the implementation of the data exchange layer Straumurinn (X-Road) and an API gateway service portal, data are expected to be more accessible and it should be easier for organisations to communicate with the public. The government will work on the 2020/2021 national strategy on open data.

6.1.2 Subnational Portals

No particular portal at subnational level has been reported to date.

6.2 Networks

FS Net

FS Net is a specialised high-speed network linking all upper secondary schools and lifelong learning education centres in Iceland. FS Net allows for fast, independent data transport and builds on the IP protocol. All upper secondary schools and lifelong learning education centres are connected through a 100-Mbps link, with branch institutes for continuing education centres connected by 2-Mbps links. The network supports multicast and traffic prioritisation and is also connected to the University and Research Network (RH Net).

Trans European Services for Telematics between Administrations

Iceland uses the Trans European Services for Telematics between Administrations (TESTA) network as the main cross border infrastructure to communicate digitally among the EU agencies, institutions and Member States.

6.3 Data Exchange

Straumurinn / X-Road

On 30 November 2018, Iceland signed an agreement with the NIIS Institute (Nordic Institute for Interoperability Solutions), which co-operates with Estonia and Finland, to start using *Straumurinn* data line. *Straumurinn* is based on the Estonian X-Road platform and it has already been implemented and tested in Estonia and Finland. This system will foster synergies between the different public bodies' IT systems by streamlining and automating data exchange processes. *Straumurinn* is the Icelandic way to grant efficiency and security in information exchanges. After the set-up phase, the first services will be available through the X-Road environment, enabling government agencies and ministries to exchange information through a standardised and secure solution. *Straumurinn* will also allow for a more secure and flexible data exchange with businesses, as well as a more efficient communication. *Straumurinn* improves the interoperability between IT systems of different public organisations, so that information can be provided once only, and the government can easily retrieve it. A large amount of data, together with a comprehensive management plan, are the prerequisites for effective and transparent public services.

6.4 eID and Trust Services

Íslandsrót Certification Authority

Íslandsrót (Iceland Root) is the certification authority, responsible for issuing and distributing eCertificates. It is controlled by the Ministry of Finance and Economic Affairs and stands at the top of the organisation pyramid of electronic identification, constituting the trust source in the system of distributed electronic certificates. Thanks to Iceland Root, intermediate certificates can be issued and used as a certification while waiting for the issue of the final certificates. The final certificates can be linked to a specific person, as is the case for private certificates or employee certificates. Various government departments too issue digital certificates. For example, the 1996 amendment to the Customs Act imposed electronic submissions using digital certificates for all import and export companies.

6.5 eProcurement

Tendsign

TendSign is a Swedish eProcurement platform used by many Swedish and Norwegian public entities. eProcurement from eNotice to eAward are implemented with this system. Rikiskaup, the Central Public Procurement entity for government bodies in Iceland, has implemented this platform at national level and is also in the process of implementing eOrdering based on xml standards.

Financial Management Authority

The Financial Management Authority (FJS) is an independent agency under the Ministry of Finance and Economic Affairs. The FJS has a contract with three service providers and has been authorised to become a PEPPOL Authority (PA).

6.6 ePayment

IcePro

The FJS cooperates with the SA Confederation of Icelandic Enterprise through the IcePro Icelandic Committee on Trade Procedures and eCommerce. IcePro is the forum of official bodies, businesses and individuals who are working on facilitating commerce and trade procedures, using EDI (Electronic Data Interchange), ebXML and other standardised means of electronic commerce.

6.7 Knowledge Management

Menntagatt: The Educational Gateway

This portal provides schools with practical online access to information and services. Content is recorded and linked to courses, academic subjects and curriculum goals. The Educational Gateway, built on a public-private partnership, is run by a private company and plans to integrate the content and services provided by public and private parties.

Tungutaekni website

Tungutaekni is an information website managed by the Icelandic Centre for Language Technology and run jointly by the Institute of Linguistics at the University of Iceland, the School of Computer Science at the Reykjavik University and the Department of Lexicography at the Árni Magnússon Institute for Icelandic Studies. For over 1 000 years, Icelandic has served not only as the language of Icelanders, but as the medium through which one of Europe's greatest literary treasures has been preserved: the medieval sagas. However, since the advent of computers, Icelandic, like many other languages, has found itself under increasing pressure, particularly due to the extensive use of English. One of the main roles of the centre is to collect information on language technology in Iceland and make it available online to facilitate both cooperation among interested parties and the use of available resources.

Icelandic Library Consortium

The Icelandic Library Consortium runs a union catalogue of Icelandic libraries, known as *Gegnir*. The company, which was founded in November 2001, is owned by the Icelandic government and a series of municipalities around the country. Its purpose is to run a central, web-based library system for most of the libraries in Iceland, thus making the best possible use of the country's modest library and information resources. The contract between Ex Libris and the Consortium of Icelandic libraries entails that the new library system is used by all or almost all the approximately 400 libraries in the country, and that legacy data is added to the new system in steps, based on existing systems.

Hvar

Hvar.is is the 'Iceland Consortium for eSubscriptions' website - a countrywide access portal to electronic databases and eJournals. It provides every resident of Iceland, who is connected to a domestic internet service provider, with information and access to more than 14 000 full-text journals, abstracts of articles from over 6 000 journals and 12 databases. According to the Icelandic government, the idea of providing nationwide access to databases of electronic bibliographies and full-text journals serves two objectives: satisfying the urgent demand of libraries and their users for a diverse set of databases and journals and putting into practice the adopted government policy of equal access for all Icelanders to the information society.

Vísindavefur

The Icelandic Web of Science was established in 2000. It contains information on all scientific fields, ranging from astronomy to ancient manuscripts. Visitors can find answers to a wide variety of questions; should information be missing they have direct access to the experts responsible for maintaining and updating the web. The *Visindavefur* is supported both by public institutions and private companies.

6.8 Cross-border platforms

EUCARIS, EULISSTORK

Iceland is a member of EUCARIS and EULIS, sharing master data cross-border. Additionally, Registers Iceland is a member of the Stork and Stork 2.0 projects, as well as the ELF and e-Sens projects.

Registers Iceland operates a PEPS-broker, built in the Stork project, to retrieve the ID attributes needed for cross-border authentication. It is now upgrading to the eIDAS node to comply with the eIDAS Regulation and CEF funding, to federate the Icelandic eID systems to the EU eID ecosystem. This will enable the exchange of ID attributes from the Member States' Population Registries for cross-border identification and authentication.

6.9 Base registries

Current Status

As to base registries, data accessibility and reusability, some registries - such as the Land Registry, Address Registry and the Map of Estimated Farmland Registry - make their data available free of charge on the open data portal. Other registries provide access to certain data on specific websites free of charge. On the Registers Iceland website, users can view single property data by looking up the address or the property number. On the Directorate of Internal Revenue webpage, users can access information on businesses.

Iceland does not have a complete catalogue of base registries. However, a list of base registries is available. The administration of the base registries is coordinated by a number of public bodies in Iceland, whereby each base registry handles its respective master data type(s).

In particular:

- the National Population and Properties Registry is managed by the Ministry of Transport and Local Government and contains master data related to personal data (natural and legal persons) and property data;
- the Vehicle Registry is managed by the Ministry of Transport and Local Government and contains master data related to vehicles;
- the Business Registry is managed by the Ministry of Finance and Economic Affairs and contains master data related to business and legal persons; and
- the Property Registry is managed by the Ministry of Transport and Local Government and contains master data related to land and properties.

There are also data sharing agreements in place:

- the National Population Registry is distributed by means of agents throughout the society and widely used both by public and private entities. Public authorities have access to more information than private entities, in order to fulfil their duties. The entities pay for the use according to an agreement with Registers Iceland;
- The Properties Registry is both accessible online and shared through various entities. The entities pay for the use according to an agreement with Registers Iceland.



7 Cross-border Digital Public Administration Services for Citizens and Businesses

Further to the information on national digital public services provided in the previous chapters, this final chapter presents an overview of the basic cross-border public services provided to citizens and businesses in other European countries. Your Europe is taken as reference, as it is the EU one-stop shop which aims to simplify the life of both citizens and businesses by avoiding unnecessary inconvenience and red tape in regard to 'life and travel', as well as 'doing business' abroad. In order to do so, Your Europe offers information on basic rights under EU law, but also on how these rights are implemented in each individual country (where information has been provided by the national authorities). Free email or telephone contact with EU assistance services, to get more personalised or detailed help and advice is also available.

Please note that, in most cases, the EU rights described in Your Europe apply to all EU member countries plus Iceland, Liechtenstein and Norway, and sometimes to Switzerland. Information on Your Europe is provided by the relevant departments of the European Commission and complemented by content provided by the authorities of every country it covers. As the website consists of two sections - one for citizens and one for businesses, both managed by DG Internal Market, Industry, Entrepreneurship and SMEs (DG GROW) - below the main groups of services for each section are listed.

7.1 Life and Travel

For citizens, the following groups of services can be found on the website:

- Travel (e.g. Documents needed for travelling in Europe);
- Work and retirement (e.g. Unemployment and Benefits);
- Vehicles (e.g. Registration);
- Residence formalities (e.g. Elections abroad);
- Education and youth (e.g. Researchers);
- Health (e.g. Medical Treatment abroad);
- Family (e.g. Couples);
- Consumers (e.g. Shopping).

7.2 Doing Business

Regarding businesses, the groups of services on the website concern:

- Running a business (e.g. Developing a business);
- Taxation (e.g. Business tax);
- Selling in the EU (e.g. Public contracts);
- Human Resources (e.g. Employment contracts);
- Product requirements (e.g. Standards);
- Financing and Funding (e.g. Accounting);
- Dealing with Customers (e.g. Data protection).

The Digital Public Administration Factsheets

The factsheets present an overview of the state and progress of Digital Public Administration and Interoperability within European countries.

The factsheets are published on the Joinup platform, which is a joint initiative by the Directorate General for Informatics (DG DIGIT) and the Directorate General for Communications Networks, Content & Technology (DG CONNECT). This factsheet received valuable contribution from Hólmfríður Sigríður Jónsdóttir, Head of Division/Specialist, Digital Iceland - Project Management Office, Ministry of Finance and Economic Affairs



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