

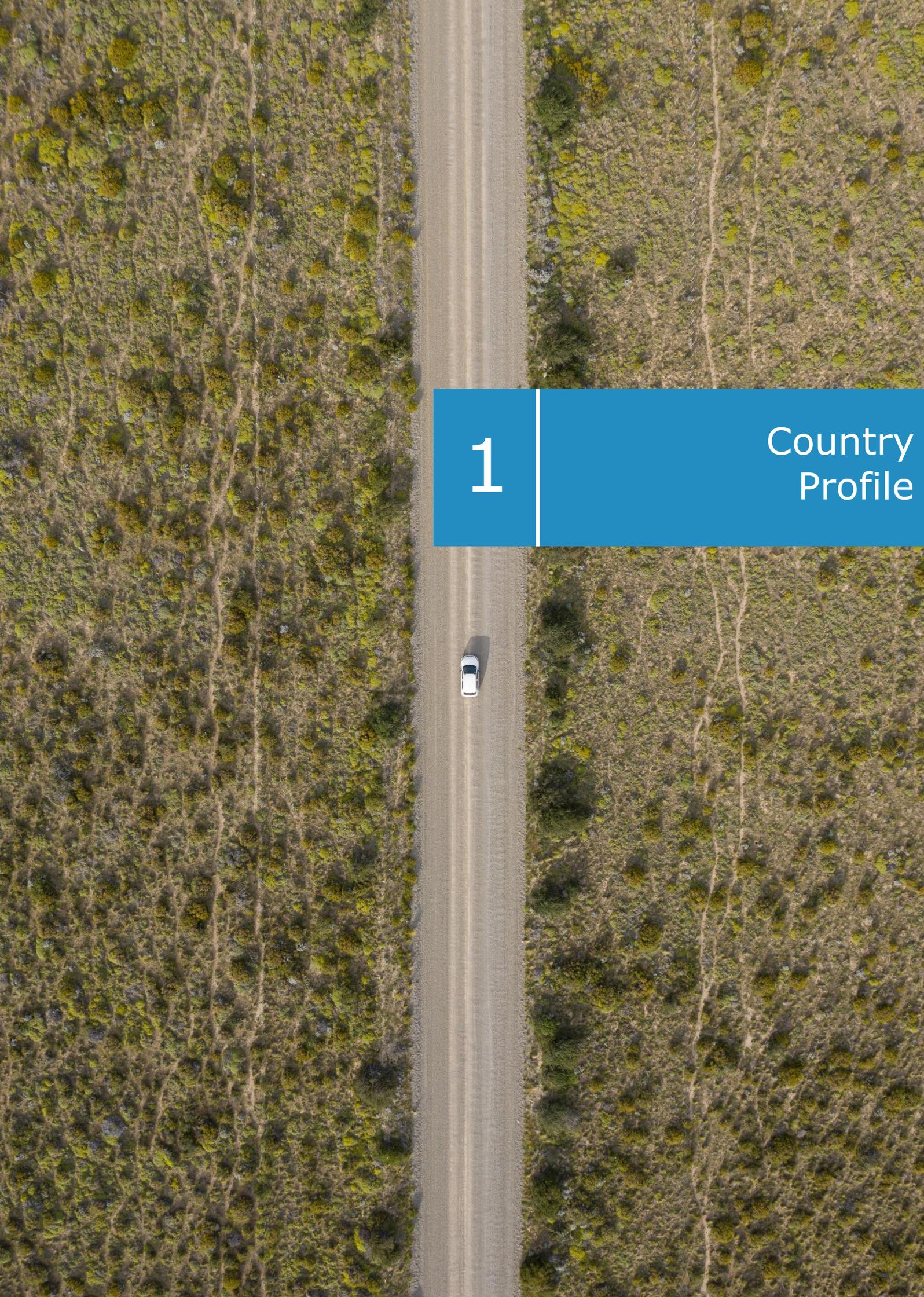
Digital Public Administration factsheet 2022

Hungary



Table of Contents

1	Country Profile.....	4
2	Digital Public Administration Highlights	10
3	Digital Public Administration Political Communications	13
4	Digital Public Administration Legislation	19
5	Digital Public Administration Governance	25
6	Digital Public Administration Infrastructure.....	29
7	Cross-border Digital Public Administration Services	38



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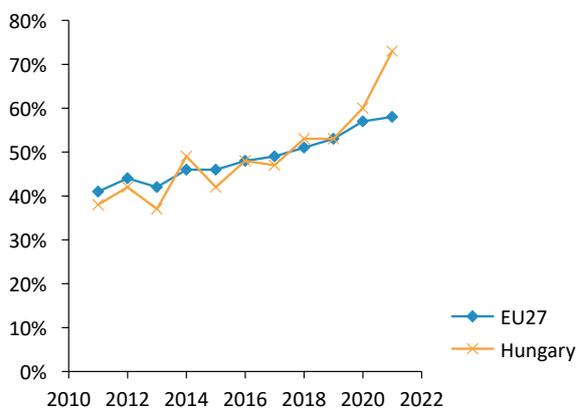
Country
Profile

1 Country Profile

1.1 Digital Public Administration Indicators

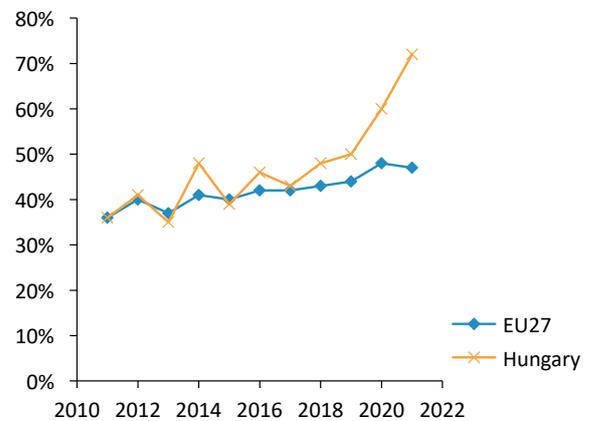
The following graphs present data for the latest Generic Information Society Indicators for Hungary compared to the EU average. Statistical indicators in this section reflect those of Eurostat at the time the Edition is being prepared.

Percentage of individuals using the Internet for interacting with public authorities in Hungary



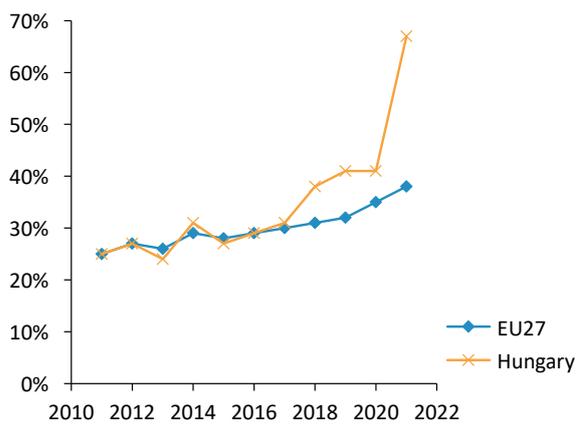
Source: Eurostat Information Society Indicators

Percentage of individuals using the Internet for obtaining information from public authorities in Hungary



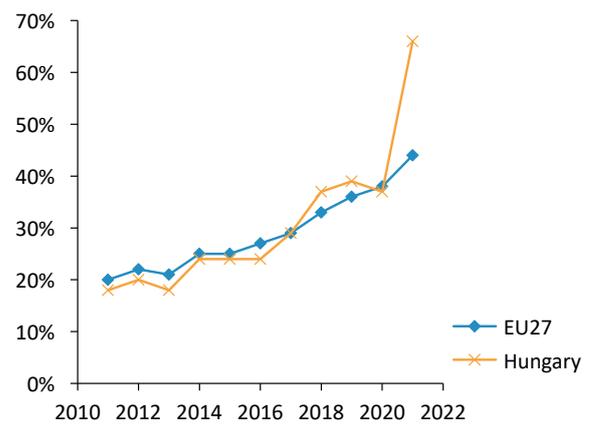
Source: Eurostat Information Society Indicators

Percentage of individuals using the Internet for downloading official forms from public authorities in Hungary



Source: Eurostat Information Society Indicators

Percentage of individuals using the Internet for sending filled forms to public authorities in Hungary



Source: Eurostat Information Society Indicators

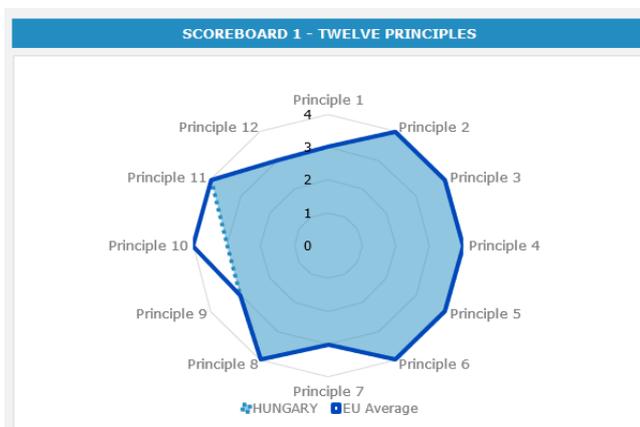
1.2 Interoperability State of Play

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 71 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 2021

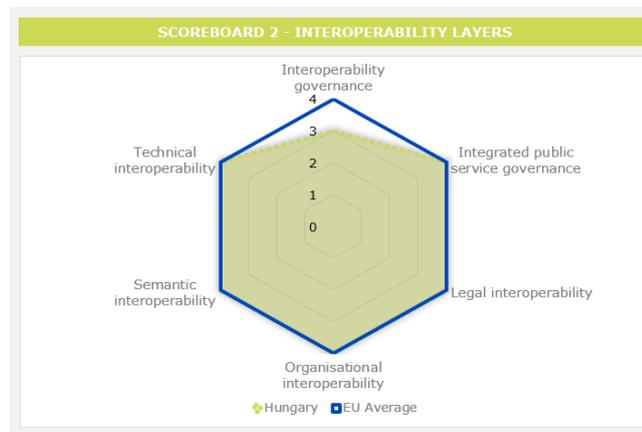
For each of the three pillars, a different scoreboard was created to breakdown the results into their main thematic areas (i.e. the 12 principles of interoperability, the interoperability layers and the components of the conceptual model). The thematic areas are evaluated on a scale from one to four, where one means a lower level of implementation and 4 means a higher level of implementation. The graphs below show the result of the third EIF Monitoring Mechanism data collection exercise for Hungary in 2021.



Source: European Interoperability Framework Monitoring Mechanism 2021

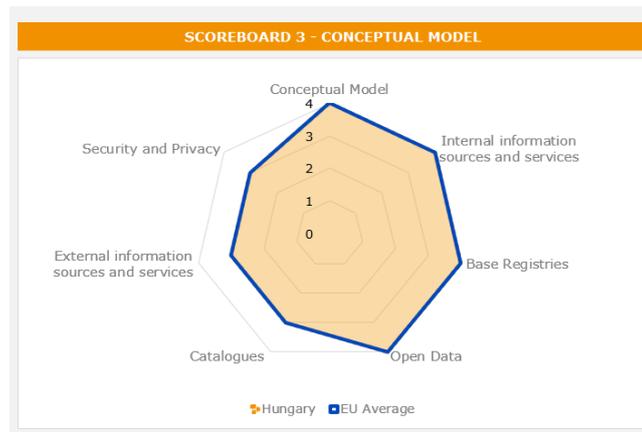
Hungary’s results in Scoreboard 1 show an overall good implementation of the EIF Principles, with all principles falling within the EU average except Principle 10 for which it scored 3. Specifically, Hungary should simplify its processes and use digital channels

whenever appropriate for the delivery of public services, to respond promptly and with high quality to users' requests and reduce the administrative burden on public administrations, businesses and citizens (Principle 10 – Recommendation 17). In addition, other areas of improvements are concentrated in the Principles 1 (Subsidiarity and Proportionality), 7 (Inclusion and accessibility), 9 (Multilingualism) and 12 (Assessment of Effectiveness and Efficiency) for which the score of 3 shows an upper-medium performance in the implementation of corresponding recommendations. Indeed, the alignment and tailoring of national interoperability frameworks and interoperability strategies with the EIF (Principle 1 – Recommendation 1), the use of e-accessibility specifications to ensure all public services are accessible to all citizens, including persons with disabilities, the elderly and other disadvantaged groups (Principle 7 – Recommendation 14), the availability of information systems and technical architectures that cater for multilingualism (Principle 9 – Recommendation 16) and the implementation of evaluation mechanisms to assess the effectiveness and efficiency of interoperable solutions (Principle 12 – Recommendation 19) are partial and could be bettered to reach the maximum score of 4.



Source: European Interoperability Framework Monitoring Mechanism 2021

The Hungarian results for the implementation of interoperability layers assessed for Scoreboard 2 show an overall high performance with a score of 4, with the exception of the area of interoperability governance, for which Hungary scored 3. This score could be particularly improved with the existence of defined processes for the selection and adoption of standards and specifications (Recommendation 21), the use of a structured, transparent, objective and common approach for the assessment and selection of standards and specifications (Recommendation 22) and the consultation of relevant catalogues for standards, specifications and guidelines at the national and EU level (Recommendation 23) by Hungary.



Source: European Interoperability Framework Monitoring Mechanism 2021

Hungary's scores assessing the Conceptual Model in Scoreboard 3 show a good performance in the implementation of recommendations associated with the conceptual model, internal information sources and services, base registries and open data. However, some improvements can be made in implementing recommendations related to the catalogues, external information sources and services and security and privacy. In particular, putting in place catalogues of public services, public data, and interoperability solutions (Catalogues - Recommendation 44), the lack of use of external information sources and services while developing European public services (External information and services - Recommendation 45) as well as the lack of trust services providers within the country (Recommendation 47) hinder the overall Hungarian score on the conceptual model.

Additional information on Hungary's results on the EIF Monitoring Mechanism is available online through [interactive dashboards](#).

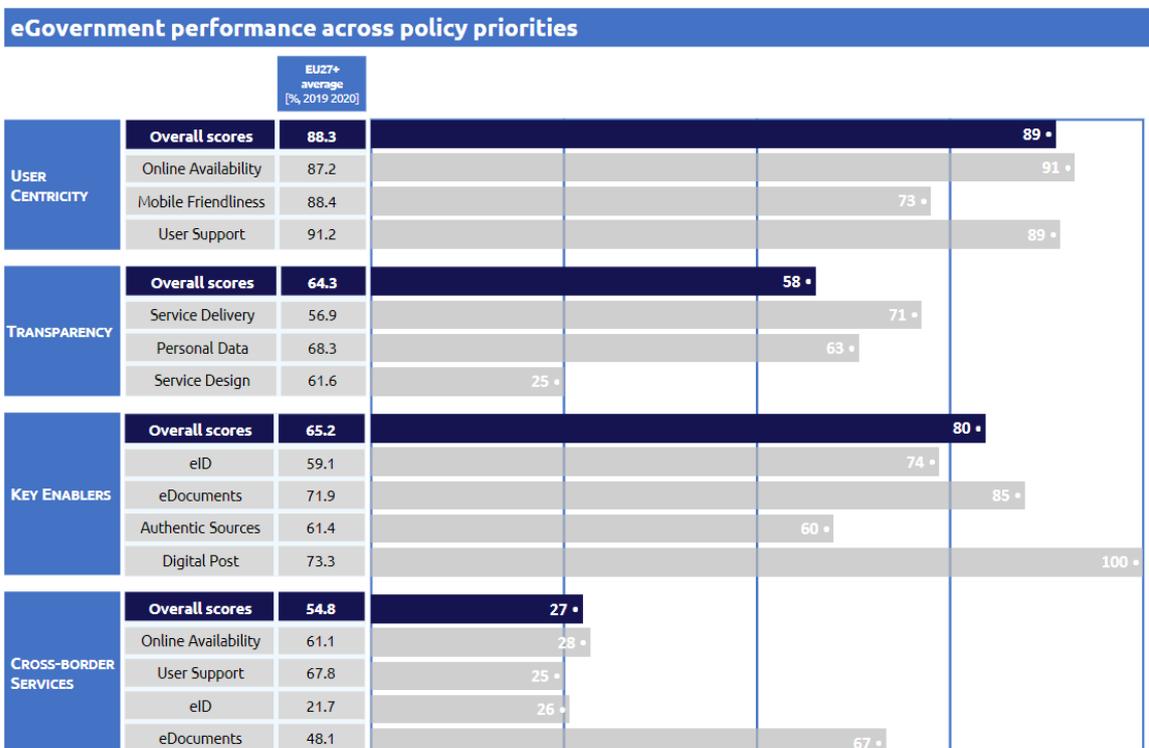
1.3 eGovernment State of Play

The graph below presents the main highlights of the latest eGovernment Benchmark Report, an assessment of eGovernment services in 36 countries: the 27 European Union Member States, as well as Iceland, Norway, Montenegro, the Republic of Serbia, Switzerland, Turkey, Albania and Macedonia (referred to as the EU27+).

The study evaluates online public services on four dimensions:

- User centricity: indicates the extent to which a service is provided online, its mobile friendliness and its usability (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) policy making and digital service design processes and (iii) the personal data processed in public services.
- Cross-border services: 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 organizational pre-conditions for eGovernment service provision are in place, such as electronic identification and authentic sources.

The 2022 report presents the biennial results, achieved over the past two years of measurement of all nine life events used to measure the above-mentioned key dimensions. More specifically, these life events are divided between seven 'Citizen life events' (Starting a small claim procedure, Moving, Owning a car, Health measured in 2021, and Career, Studying, Family life, measured in 2020) and two 'Business life events' (Regular Business Operations, measured in 2021, and Business start-up, measured in 2020).



Source: eGovernment Benchmark Report 2022 Country Factsheets



2

Digital Public Administration Highlights

Handwritten notes on a piece of paper in the bottom right corner, including a flowchart and bullet points.

2 Digital Public Administration Highlights



Digital Public Administration Political Communications

The draft of the **National Digitalisation Strategy 2021-2030** was completed in June 2020 and addresses four main priority areas: Digital infrastructure, Digital skills, Digital economy and Digital State. Interoperability is considered as a key requirement for the successful development of the Digital State pillar.

The **Strategy on Artificial Intelligence 2020-2030** was adopted and includes a dedicated part on data policy and data re-use, calling for a proper institutional background and a one-way-access data portal.



Digital Public Administration Legislation

Based on **Government Decree 1422/2020**, the launch of the PetaFlops national supercomputer (HPC) services is planned for 2022, serving both academic and industrial communities, including SMEs. The second phase of the development is in the preparatory stage, with the aim to build and operate a national HPC infrastructure of at least 20 PetaFlops by 2025.



Digital Public Administration Governance

In 2020, the **Governmental Information Technology Development Agency (KIFU)** has also established the national HPC Competence Centre (CC), which has joined the network of the EuroHPC Competence Centres on 1 September 2020.



Digital Public Administration Infrastructure

According to the **eAdministration Act**, all public administration bodies providing eGovernment services are obliged to publish their services on the Portal. As of January 2022, there were 3027 public services published on the portal.

The Open Data Portal, whose aim is to establish a complete and responsible national data management scheme, is expected to be launched in the first half of 2022.

Following the regulatory measures supporting the uptake of AI-based solutions by the public sector, text-to-speech, speech-to-text and chatrobot services became available for public administration reuse.

Since February 2021 the AI-backed video-based face-recognition identification became publicly available as the 4th centrally provided eID means besides the Client Gate, the national eID card and the telephone code identification. In the field of public administration automatization, since 2021 the Ministry of Interior conducts a pilot project that aims to develop an automatic decision-making tool for public administration reuse (AKD) as a centrally provided e-government building block. The essence of the AKD solution is to execute a process along the decision logics set in it,

recorded via a graphically compiled model and its configuration, based on data provision from base registries via the Central Government Service Bus.

The national one-stop shop portal, the renewed [Magyarország.hu](https://magyarorszag.hu) portal, which was launched in February 2020, becomes more and more popular. In January 2022 more than 3 thousand services were published online, with more than 400 completely integrated services, using the built-in intelligent online form solution of the portal, and further 14 services are available via the fully integrated applets. Since July 2021 the English language surface of the portal is also publicly available, and so far, 183 service descriptions are available in English language as well, according to the Single Digital Gateway Regulation.



3

Digital Public
Administration
Political
Communications

3 Digital Public Administration Political Communications

3.1 Specific political communications on digital public administration

Berlin Declaration on Digital Society and Value-Based Digital Government

In December 2020, the Hungarian government signed the **Berlin Declaration on Digital Society and Value-Based Digital Government**, thus re-affirming its commitment – together with other European Union (EU) Member States – to foster digital transformation in order to allow citizens and businesses to harness the benefits and opportunities offered by modern digital technologies. The Declaration aims to contribute to a value-based digital transformation by addressing and strengthening digital participation and digital inclusion in European societies.

National Digitalisation Strategy 2021–2030

The draft for the **National Digitalisation Strategy 2021–2030** was completed in June 2020 and its adoption is underway. Prepared by the Ministry of Innovation and Technology, and the Ministry of the Interior, the strategy takes into account the previous National Infocommunication Strategy 2014–2020 and the Digital Success Programme 2.0.

Aiming to develop the economy, education, innovation and research, and public administration, the strategy is based on four pillars and the following focus areas:

- Digital infrastructure: promote the development of gigabit-capable networks and 5G, expansion of the digital infrastructures for schools and higher education institutions, continued development of the National Telecommunication Backbone Network, and expansion of supercomputing capacity for small and medium-sized enterprises (SMEs), research networks and public institutions;
- Digital skills: create programmes for digital competency, increase the number and capacity of information technology (IT) professionals and support the learning of digital skills in education;
- Digital economy: increase the digital reach and use of SMEs, develop digital start-up businesses, create support programmes for the information and communication technology (ICT) industry and its development, and utilise data assets of the government for economic purposes; and
- Digital State: support digital development of both central and local, and cross-border public administration with user-friendly systems and customer-centric services, development of smart towns and smart areas, and an increase in electronic services.

3.2 Interoperability

National Digitalisation Strategy 2021–2030

The draft of the **National Digitalisation Strategy 2021–2030** presents increased interoperability as one of the requirements for the fourth pillar on the development of a digital State. More specifically, it identifies the need to establish a data-based administration in the country, with interoperable data connections between administrative services on different levels (local, national and European) and aspects (legal, organisational, semantic and technical).

Apart from technology neutrality and IT security requirements, a development based on software with open-source codes needs to be encouraged. To that end, the legislative framework was established according to the National Infocommunication Strategy 2014–2020 with the adoption of **Act No. CCXXII of 2015 on the General Rules for Electronic Administration and Trust Services** (hereinafter, the eAdministration Act). Pursuant to the eAdministration Act, from 1 January 2018 the cooperating bodies involved in administrative processes shall obtain information (data or documents) from another cooperating body rather than asking the customer (citizen or business) to resubmit it. Information must be obtained by automated data exchange processes, where possible, or otherwise by a simple secure information exchange. Furthermore, according to the eAdministration Act electronically cooperating organisations are obliged to prepare and publish information transfer rules, as well as send them to the Electronic Administration Supervisory Authority (EÜF) within the Ministry of the Interior.

3.3 Key enablers

3.3.1 Access to public information

Public Sector Information Reuse

In 2012, the public sector information (PSI) Directive was fully implemented in line with all EU requirements in the form of the Public Data Act (Act No. LXIII of 2012). The 2013 amendment of the PSI Directive was then implemented by the deadline of 2015 (Act No. XCVI of 2015). The Hungarian implementation went beyond the provisions of the PSI Directive in some points.

Furthermore, the new **Strategy on Artificial Intelligence 2020–2030** was adopted, including a dedicated part on data policy and data reuse which calls for a proper institutional background and a one-way-access data portal. Within the framework of the strategy, the establishment of a new national open data portal has been started and the National Data Asset Management Agency (*Nemzeti Adatvagyron Ügynökség, NAVÜ*) has been established with the main purpose to facilitate and coordinate the reuse of public sector data among public sector bodies. The Agency also provides analysis and information services to public sector bodies. With the establishment of the Agency, the proper institutional background outlined in the strategy has been successfully created.

Finally, the planned legislative changes will facilitate and support the implementation of the Public Data Act and will provide the legal framework to the functioning of the Agency and the reuse of PSI.

3.3.2 eID and Trust Services

Central Authentication Agent

The Central Authentication Agent building block supports the use of different electronic identification (eID) services, including the Client Gate trusted profile, the national eID card and a partial code telephone authentication. Since February 2018, eServices already integrated with the Central Authentication Agent service can be accessed via all these eID methods.

According to current plans, eIDAS authentication will also be available within the Central Authentication Agent. The Hungarian eIDAS node is under development, and the preparations for the Hungarian eID (the eID card) to join the eIDAS scheme and the development of the eIDAS proxy service are also in progress.

In January 2022 the number of valid eID cards issued since the launch in January 2016 surpassed 7.1 million and the number of Client Gate accounts exceeded 5.1 million.

3.3.3 Security aspects

Cybersecurity Strategy

The new **Cybersecurity Strategy** was adopted at the end of December 2018 (1838/2018 (XII 28)) by governmental resolution, aiming to establish a free, safe, innovative and competitive cyberspace, increase Hungary's competitiveness, introduce innovations and new technologies in a secure manner, and adapt them to the digitalised public administration, government and economy. The strategy has created a safer electronic public administration system and an innovative development of public services, as well as raised awareness in all areas of society.

Digital Government Projects and Cybersecurity

The National Cyber Defence Institute of the Special Service for National Security must assess the conformity of each public administration IT and eGovernment service development project with the rules of Act No. L of 2013. The National Cyber Defence Institute has to audit ongoing and completed projects.

3.3.4 Interconnection of base registries

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

3.3.5 eProcurement

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

3.4 Domain-specific political communications

Public Administration and Civil Service Development Operational Programme

The **Public Administration and Civil Service Development Operational Programme (OP)** will invest over EUR 935 million, including nearly EUR 795 million from EU funding (75.7% from the European Social Fund and 24.3% from the Cohesion Fund), to reinforce services provided by public authorities. The OP will help Hungary increase the efficiency of its public administration through the development of quality public services that are considered essential to attain sustainable growth in line with the Europe 2020 Strategy. The following results are expected from the programme:

- 400 procedures will benefit from administrative services and end-to-end time reduction;
- 250 new eGovernance procedures will be developed;
- 63 800 public servants will participate in competence development programmes; and
- 1 000 local municipalities will be connected to the integrated public administration information system.

Irinyi Plan Industrial Strategy Support Programme

The **Irinyi Plan Industrial Strategy Support Programme**, which has been in operation since 2016, aims to support the development and marketing of high-value-added products that are competitive in international markets. The strategy includes five pillars, with the first focusing on the development of the Hungarian industry through new digital technologies.

National Digital Agricultural Strategy

The **National Digital Agricultural Strategy**, adopted in 2019, aims to support the increase of efficiency of the agricultural sector. It focuses on increasing profitability through the use of available environmental resources and technological operations based on collecting and processing information, automation and robotisation.

Fintech Strategy

The Hungarian National Bank and the Digital Success Programme published the Hungarian **Fintech Strategy**, discussing their regulatory, educational and innovation efforts. The two organisations are constantly cooperating in supporting the development of the Hungarian fintech ecosystem. The aim of Hungary's **Fintech Strategy**, as part of the Digital Success Programme, is to create a favourable regulatory and market environment for both traditional and new stakeholders of the financial market, enabling them to supply customers with innovative, easy-to-use and cost-effective solutions.

3.5 Emerging Technologies

3.5.1 Artificial intelligence (AI)

Artificial Intelligence Coalition

The Hungarian Artificial Intelligence Coalition was founded on 9 October 2018 with the following goals:

- Providing a continuous cooperation forum for artificial intelligence (AI) developers, market operators, State participants representing AI users, academics and professional organisations;
- Developing a Hungarian AI Strategy; and
- Analysing the social and economic impacts related to the spread of AI.

The Coalition has developed an action plan that lays the groundwork for the Hungarian data market and the institutional framework of the local AI ecosystem. It also defines the legislative and infrastructural structure of data capital management by creating data markets and making personally non-identifiable public data searchable. In addition, widespread multi-stage awareness-raising campaigns have been launched by relying on a diverse range of communication tools. In May 2020, the Coalition presented the **Artificial Intelligence Strategy 2020–2030**. The strategy offers an overview of the current state of development of AI, but also sets the objectives and target indicators to be met. The official approval and announcement of the Strategy took place in September 2020.

3.5.2 Distributed ledger technologies

Blockchain Working Group

The Digital Success Programme operates a Blockchain Working Group consisting of all Ministries, authorities and market players relevant to the blockchain technology. The aim is to map and tackle regulatory challenges related to the blockchain technology. Hungary is a member of the European Blockchain Partnership, in the framework of which it has established its own European Blockchain Service Infrastructure node (in cooperation between the Digital Success Programme and the Governmental Agency for IT Development or KIFÜ). The aim is to become more involved in European cooperation.

3.5.3 Big data

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

3.5.4 Cloud computing

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

3.5.5 Internet of Things (IoT)

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

3.5.6 High-performance computing

High Performance Computing Infrastructure and Ecosystem

In parallel with infrastructure development and ecosystem building, Hungary is working on tightening its Europe-wide links and collaboration in the field of supercomputing within the frame of the [EuroHPC Joint Undertaking \(JU\)](#) and the Partnership for Advanced Computing in Europe (PRACE) Programme. More in detail, Hungary joined the EuroHPC JU in September 2018 as a founding Member State and has been an active partner in all development programmes of the EuroHPC JU since then.

Hungary is also a member of the Italy-led consortium aimed to establish the pre-exascale high performance computer Leonardo, with about 250 PetaFlops supercomputing power, at the premises of CINECA, the Italian Inter-University Consortium, in Bologna.

3.5.7 High-speed broadband connectivity

5G Coalition

The objective of the Hungarian government is to make Hungary a frontrunner in 5G development in terms of regulation and technological advances in the fields of automotive industry (autonomous and connected vehicles), industrial Internet of Things (IoT), health, transport and other areas.

The [Digital Success Programme 2.0](#) described clear and definite goals regarding the introduction of 5G technologies, as the establishment of the 5G Coalition (5GC) and the preparation of the 5G Strategy of Hungary. In this context, the programme called for all partners intending to work together to achieve the ambitious goals set by the Coalition.

The Coalition was established on 19 June 2017 with 46 founding members, now reaching 86, and held more than 70 working group meetings with more than 1 250 participants. In the five working groups, more than 211 professionals are working together to provide strategic inputs to the government.

The 5GC's intention is to contribute to increasing the social awareness, understanding, acceptance and recognition of successful 5G solutions via its members' independent but coordinated communication activities and the presentation of successful 5G solutions. More specifically, the key priorities of the 5GC are:

- Making Hungary evolve to reach a target position as a major European centre for 5G developments;
- Contributing to the creation of a world-class 5G test environment; and
- Introducing 5G in Hungary among the first in the world.



4

Digital Public
Administration
Legislation

4 Digital Public Administration Legislation

4.1 Specific legislation on digital public administration

eAdministration Act

For a wide range of administrative bodies, electronic administration has been regulated according to the unified principles of the eAdministration Act, which was rolled out over the two-year period 2016–2018.

To extend the regulation to all organisations concerned, a new implementing decree was adopted in December 2016 (451/2016 (XII. 19.)), stipulating a detailed set of rules on eAdministration, including precise rules for electronic administration and electronic communications, and regulated electronic administration services (SZEÜSZ) and central electronic administration services (KEÜSZ), i.e. the building blocks of eGovernment services.

eGovernment Legislation

The most important laws regulating eGovernment are the following:

- Act No. CCXXII of 2015 on the General Rules for Electronic Administration and Trust Services, setting out (i) the general rules applying to electronic administration, and the relationship and contacts between citizens and public bodies providing eAdministration services; (ii) the rules for the renewal of interoperability; (iii) the legal provisions necessary to implement Regulation (EU) No. 910/2014 of the European Parliament and of the Council of 23 July 2014 on electronic identification and trust services for electronic transactions in the internal market and repealing Directive 1999/93/EC (eIDAS Regulation); and (iv) the rules of authenticity of electronic and paper-based documents. The eAdministration Act also introduces the underlying principles for electronic administration, defines the role of the EÜF and establishes the so-called regulated electronic administration services, i.e. the building blocks for developing eGovernment services;
- Government Decree 451/2016 (XII 19) on the Detailed Rules for Electronic Administration, containing the detailed rules applying to electronic administration and electronic communications, and regulated electronic administration services (SZEÜSZ) and central electronic administration services (KEÜSZ), i.e. the building blocks of Hungarian eGovernment services;
- Act No. CXXI of 2016 on the Amendment of Certain Acts Necessary to Develop a Single Electronic Administration System, adjusted to reflect the necessary amendments to sectoral legislation allowing electronic administration according to the eAdministration Act;
- Government Decree 257/2016 (VIII 31) on the ASP System of Local Governments;
- Decree of the Ministry of the Interior 25/2016 (VI 30) on the Amount of Administrative Service Fee to Be Paid to the Trust Authority;
- Decree of the Ministry of Interior 41/2016 (X 13) on the Organisations Certifying the Compliance of Tools Creating Qualified Electronic Signatures and Qualified Electronic Stamps and the Rules Regarding their Assignment;
- Act No. CL of 2016 on the Code of General Administrative Procedure;
- Government Decree 84/2012 (IV 21) on the Assignment of Certain Organisations Related to Electronic Administration;
- Decree 13/2011 (XII 27) of the National Media and Infocommunication Authority on Customer Protection-related Quality Requirements of Electronic Communication Services;

- Government Decree 335/2005 (XII 29) on the Common Provisions for Document Management in Public Administrative Bodies;
- Government Decree 346/2010 (XII 28) on the Networks for Governmental Purpose (National Telecommunication Backbone Network);
- Government Decree 309/2011 (XII 23) on the Centralised IT and Electronic Communication Services, introducing the National Infocommunication Service Provider Ltd.;
- Decree of the Ministry of Innovation and Technology 1/2018 (VI 29) on the Rules for Digital Archiving;
- Decree of the Ministry of the Interior 48/2016 (XI 28) on the Administrative Service Fee to be Paid for the Declaration of Regulated Electronic Administrative Services; and
- Decree of the Ministry of Human Capacities 39/2016 (XII 21) on the Detailed Rules regarding the Electronic Health Cooperation Service Space (EESZT), including its obligatory usage.

4.2 Interoperability

eAdministration Act

The third part of the eAdministration Act regulates cooperation in the field of IT between bodies providing electronic administrative services, as well as interoperability. The eAdministration Act aims to achieve interoperability and cooperation between State registries. More specifically, it strongly encourages bodies to obtain information, decisions and statements from cooperating bodies if the information, decisions or statements are made or already obtained by these cooperating bodies by electronic means.

4.3 Key enablers

4.3.1 Access to public information

Act on the Reuse of Public Data

Act No. LXIII of 2012 on the Reuse of Public Data regulates the reuse of public data and public cultural data held by public bodies (and private bodies with a public service mission) for the purpose of reuse by private persons or entities.

Act on Informational Self-Determination and Freedom of Information

Act No. CXII of 2011 on Informational Self-Determination and Freedom of Information (also available in English) is a combined data protection and freedom of information act. It sets rules and safeguards for the processing of personal data by public and private bodies. In addition, based on this act, access to public information is free upon request and public bodies are obliged to proactively publish fundamental information on their operation on their websites. The application is overseen by the National Data Protection and Freedom of Information Authority. In addition, Government Decree 305/2005 includes detailed rules on the electronic publication of public data and establishes a public data search system.

4.3.2 eID and Trust Services

Act on the General Rules for Electronic Administration and Trust Services

The eAdministration Act sets out the general rules on electronic signatures. More in detail, it introduces the legal provisions necessary to implement the eIDAS Regulation,

as well as the rules of authenticity of electronic and paper-based documents (repealing previous legislation on electronic signatures). With the new rules, the use of electronic stamps instead of organisational signatures becomes obligatory. This is to be achieved in the context of the eIDAS Regulation.

Further detailed provisions are to be found in several other decrees (see below).

Government Decree 137/2016 (VI 13)

Government Decree 137/2016 (VI 13) sets out the requirements concerning electronic signatures and stamps for providing electronic administration services.

Government Decree 451/2016 (XII 19)

To extend the regulation to all organisations concerned by the eAdministration Act, an implementing decree, Government Decree 451/2016 (XII 19) on the Detailed Rules for Electronic Administration, was issued.

Decree of the Ministry of the Interior 24/2016 (VI 30)

Decree of the Ministry of the Interior 24/2016 (VI 30) establishes detailed requirements concerning trust services and their providers.

4.3.3 Security aspects

Act on the Electronic Information Security of State and Municipal Bodies

Act No. L on the Electronic Information Security of State and Municipal Bodies is the legal act dealing with cybersecurity aspects of digital government. The electronic information systems covered by the act must be implemented ensuring:

- The confidentiality, integrity and availability of data and information processes in the electronic information system; and
- The integrity and availability of the electronic system, as well as the closed, full, continuous and proportionate protection of its elements.

4.3.4 Interconnection of base registries

Government Decree 451/2016 (XII 19)

Government Decree 451/2016 (XII 19) on the Detailed Rules for Electronic Administration enumerates 27 base registries that are obliged to provide their data exchange services via the Hungarian Central Governmental Service Bus (KKSZB). Nevertheless, the use of the KKSZB is spreading further, as more and more services and base registries become available through the platform (see also Section 6.3).

Act on Citizens' Personal Data and Address of Registration

Act No. LXVI of 1992 on Citizens' Personal Data and Address of Registration defines the content, concept and functions of the Civil Registry. More in detail, the act regulates the organisation of records, competence and jurisdiction, data records, reporting from the Registry, the registration process, data security and other aspects. Another part worth mentioning is the one relating to data sources, clearly defining how the Civil Registry collects data from different sources.

Act on Public Company Information, Company Registration and Winding-up Proceedings

Act No. V of 2006 on Public Company Information, Company Registration and Winding-up Proceedings is the primary piece of legislation in Hungary regulating the Business Registry. The purpose of this act is to lay down the appropriate legal

framework to facilitate the establishment and registration of companies, and to provide full public access, directly or by way of electronic means, to information from registries of official company records. The act also contains related definitions, such as that of company or corporate name, though not exclusively. Other important aspects covered in this act are access to company documents submitted on paper or by electronic means, access to company documents converted into electronic format, the specific content of the Business Registry and registration proceedings.

4.3.5 eProcurement

Government Decree on Electronic Public Procurement

Act No. CXLIII of 2015 on Public Procurement and Government Decree 424/2017 (XII 19) on the Detailed Rules for Electronic Public Procurement establish the main rules on public procurement, including the compulsory use of electronic communication in public procurements and the basic procedural rules thereof. Moreover, the Government Decree further provides for the technical rules on eProcurement relating to the Public Procurement Act. eProcurement became compulsory on 1 February 2017 for central purchasing bodies, and on 15 April 2018 for all contracting authorities.

4.4 Domain-specific legislation

eCommerce Legislation

- Decree of the Ministry of Justice 25/2006 (V 18) on the Electronic Payment of Fees for Public Notices in the Administration of Business Processes;
- Decree of the Ministry of Finance 46/2007 (XII 29) on Electronic Invoices;
- Decree of the Ministry of Justice 24/2006 (V 18) on Certain Aspects of the Electronic Business Registration Procedure and the Electronic Business Registry;
- Decree of the Ministry of National Economy 23/2014 (VI 30) on the Identification of Invoices, Simplified Invoices and Receipts for the Tax Administration, as well as on the Tax Authority's Inspection of Invoices Stored in Electronic Form; and
- Act No. CVIII of 2001 on Electronic Commerce and Information Society Services, adopted on 18 December 2001, implementing Directive 2000/31/EC on certain legal aspects of information society services, in particular electronic commerce. The act governs the eCommerce legal relationships of individuals, legal entities and organisations without legal personality.

Vocational Training Act

The Vocational Training Act was adopted in 2019, with the Vocational Training Innovation Council acting as a functional institution. The act aims to respond to rapidly changing professional needs by promoting the growth of skills and qualifications through the development of digital curriculums.

4.5 Emerging technologies

4.5.1 Artificial intelligence (AI)

Government Decree 451/2016 (XII 19)

An amendment of Government Decree 451/2016 (XII 19) on the Detailed Rules for Electronic Administration came into force on 10 December 2021, setting the rules for using the newly developed AI-based eGovernment building blocks available for public

administration reuse, such as the AI-based chatrobot, voice generator and voice description services provided by the government.

4.5.2 Distributed ledger technologies

No legislation has been adopted in this field to date.

4.5.3 Big data

No legislation has been adopted in this field to date.

4.5.4 Cloud computing

Government Decree 467/2017 (XII 28)

Avoiding using external (public and hybrid) cloud services in the public administration is a key element of the Hungarian government's policy. Regarding the use of cloud services in the public sector, in Government Decree 467/2017 the government defines the central and local government systems and development projects that are obliged to use the Government Data Centre (GDC) provided by the State-owned company NISZ Zrt. It also establishes for which systems the government provides the possibility of placement in the GDC.

4.5.5 Internet of Things (IoT)

No legislation has been adopted in this field to date.

4.5.6 High-performance computing

High Performance Computing Infrastructure and Ecosystem

Government Decree 1422/2020 (VII 23) defined a two-phase development process for the national high performance computing (HPC) infrastructure and ecosystem.

In the first phase a 5 PetaFlops national supercomputer will be established by the end of February 2022 with joint financing by the Economy Development and Innovation OP and national financial sources defined by the governmental decree.

The second phase of development is in the preparatory stage. The aim is to build and operate a national HPC infrastructure of at least 20 PetaFlops by 2025.

4.5.7 High-speed broadband connectivity

No legislation has been adopted in this field to date.



5

Digital Public
Administration
Governance

5 Digital Public Administration Governance

For more details on Hungary's responsible bodies for digital policy and interoperability, its main actors, as well as relevant digital initiatives, please visit the NIFO collection on Joinup.

5.1 National

Deputy Secretary of State for Informatics, Ministry of the Interior

The Deputy Secretary of State for Informatics within the Ministry of the Interior is, among others, responsible for:

- The policy and strategy-making on public administration IT infrastructure, services and eGovernment;
- The development of eGovernment services and building blocks provided by the State;
- The supervision of government IT and eGovernment developments using EU funds to pursue policy goals;
- The modernisation of public administration and the information society through the implementation and promotion of eGovernment;
- The codification of legal measures related to electronic means of public administration;
- The use of electronic signatures and electronic administration services; and
- The interoperability of registries owned by the national and local governments.

Deputy Secretary of State for Digitalisation, Ministry of Innovation and Technology

The Deputy Secretary of State for Digitalisation within the Ministry of Innovation and Technology is responsible for tasks related to policy and strategy-making in the IT infrastructure development and information society.

Permanent Secretary of State, Cabinet Office of the Prime Minister

The Permanent Secretary of State is responsible for the overall high-level coordination of tasks related to eGovernment and IT policy and strategy-making. The 100% State-owned Digital Government Agency Ltd. under the supervision of the Cabinet Office is responsible for the consolidation of IT-related procurement.

National Infocommunication Service Provider Ltd.

Functioning under the control of the Ministry of the Interior, the fully State-owned National Infocommunication Service Provider Ltd. (NISZ Zrt.) is the main IT service provider for Hungarian government organisations. In addition to maintaining the government IT infrastructure and services, the strategic goals of the company also include the development of eGovernment solutions. As a result, most of the government IT infrastructure, regulated electronic administrative services (building blocks) and eGovernment services are provided by the NISZ Zrt.

Among other key projects, the NISZ Zrt. is also responsible for implementing the EU-funded GDC, which provides cloud services to the public administration making it more cost-effective. The GDC is a geo-redundant central IT infrastructure capable of providing cloud-based services, and a stable, safe and secure IT infrastructure environment for government, public administration and public services use. The cloud infrastructure developed in the GDC, as well as the hosting facility, form a system

used as a private cloud. In Hungary, the single basic infrastructure necessary for the efficient operation of State IT systems is also provided by the GDC.

Governmental Information Technology Development Agency

The Governmental Information Technology Development Agency (KIFU) serves as a framework for the development and operation of the research network in Hungary. At the same time, the National Information Infrastructure Development (NIIF) Programme, in accordance with international practices, plays a leading role in the development and introduction of the most advanced networking technologies in Hungary.

In 2020, the KIFU also established the national HPC Competence Centre (CC), which joined the network of the EuroHPC Competence Centres on 1 September 2020.

Digital Success Point Network

Within the framework of the Digital Success Point Network, the government supported the development of existing community internet access points (Digital Success Points) and the establishment of new ones by broadening the service portfolio and developing their infrastructure, tools and services. That way, citizens who were not connected could become part of the digital world.

The plan was to support at least 1 500 community internet access points countrywide. By the end of 2018, the aim of the project was fulfilled and the technical device installation completed. In addition, more than 1 500 mentors were trained to help citizens who needed assistance to use ICT or electronic public services.

5.2 Subnational (federal, regional and local)

Deputy Secretary of State for Informatics, Ministry of the Interior

The Deputy Secretary of State for Informatics within the Ministry of the Interior is responsible for tasks related to policy and strategy-making on regional and local public administration IT infrastructure and eGovernment services.

Secretary of State for Regional Public Administration, Office of the Prime Minister

The Secretary of State for Regional Public Administration is responsible for policy and strategy-making in the development of local public administration as well as governmental one-stop-shops.

Permanent Secretary of State, Cabinet Office of the Prime Minister

The Permanent Secretary of State is responsible for the coordination of tasks related to eGovernment and IT policy and strategy-making.

National Association of Local Authorities

The National Association of Local Authorities (TÖOSZ) is the representative organisation of the majority of Hungarian municipalities, promoting the interests of its members towards the central government and providing them with support services.

Association of Cities of County Rank

The Association of Cities of County Rank (MJVSZ) represents the collective rights of Hungary's largest cities (23), protecting and promoting their interests, developing the operation of local self-governments, and cooperating with other national and international associations of local governments in support of the government's central eGovernance system and policy.

National Association of Intelligent Local Authorities

The National Association of Intelligent Local Authorities (ITOSZ) is dedicated to promoting cooperation among local authorities in the field of ICT and information management, stipulated and implemented centrally.



6

Digital Public Administration Infrastructure

6 Digital Public Administration Infrastructure

6.1 Portals

6.1.1 National Portals

Digital Connectivity Portal

The Ministry of Innovation and Technology (ITM), together with the Digital Success Programme of Hungary, launched in March 2020 an action called Digital Connectivity. Its aim is to bring together all available digital solutions, tools and services in one place, on a portal set up for this purpose. The **interface** provides all interested parties with timely information on the digital solutions offered, and the terms and conditions for accessing them.

Magyarország.hu

The new customisable electronic administration user interface has been available on the Magyarország.hu (hungary.hu) portal under the same URL since the end of February 2020 as the point of single contact of Hungary. The Magyarország.hu portal features a modern design as well as a life event-based approach to publish existing eGovernment services, and boasts a built-in intelligent online form system (iFORM), ePayment service integration as well as several integrated applets.

According to the **eAdministration Act**, all public administration bodies providing eGovernment services are obliged to publish their services on the portal. To that end, the portal provides connected service providers with a specific content management solution, a service management functionality, as well as a built-in online form editing and management system.

As for clients, both companies and citizens, the services provided by the portal can be used after electronic identification and authentication, either by **Client Gate** account, national eID card or other eID methods available. Through the portal, clients can access their personal digital post-box or, if they are officially assigned one, their **Company Gate** or **Office Gate** digital post-boxes.

In compliance with the Single Digital Gateway Regulation, since July 2021 the English language page of the portal has also been publicly available, so far with 183 service descriptions.

As of 1 January 2022 3 027 public services had been published on the portal, 1 201 of which available via direct links from the portal, 572 via the ePaper general online form, 439 via the fully integrated iFORM smart online forms, 210 via the EKEIDR forms of the government offices, 182 via the old, JAVA-based ÁNYK downloadable electronic forms and 14 through fully integrated applets. For the remaining 409 services, information is provided without further online administration possibilities.

Open Data Portal

As for the reuse of PSI, the specification of the data structure of a new data reuse portal was completed in December 2017. The development of the new portal was then started. In addition, with the adoption of the Artificial Intelligence Strategy in September 2020, the strategic and political frameworks for the establishment of the new portal were also defined. In this context, Act No. XCI of 2021 on the National Data Asset set forth the set up of the Open Data Portal to the Hungarian Data Asset Management Agency. The launch is expected in the first half of 2022.

The aim is to establish a complete and responsible national data management scheme, which includes sharing non-personal data assets created in the public sector

and having a significant multiplier effect to exploit the potential economic stimulation effect associated with their wide availability. An additional goal is the creation of an integrated public approach, which can help exploit the benefits of such economic growth considering the investment needed to guarantee such open access to data. Based on this principle, different types of data shall be identified and either made freely available or funnelled into the data market.

The new Open Data Portal will include the public data cadastre, i.e. a list of databases containing reusable public data in Hungary, and provide a one-stop connection opportunity to the national data assets freely – based on EU legislation. At the same time, it will make the relationship between State and businesses (G2B), and State and clients (G2C), as well as among States (G2G), possible.

Kormany.hu

The government of Hungary has an [official information website](#) which is constantly updated with the latest news, events and multimedia coverage concerning the cabinet activity. The 'Documents' section contains information material that the government must publish according to the law and various other publications of interest to citizens. The portal was renewed in 2020.

Egeszsegugy.gov.hu

The state-of-the-art IT communication and collaboration platform called [Electronic Health Cooperation Service Space \(EESZT\)](#) enables information systems and health professionals to work together. The services are based on a cloud-based centralised platform and service-oriented architecture (SOA). The system can electronically store information about patients (health status, treatments, etc.) and provides access thereto for doctors, pharmacists, therapists, nurses, etc. working in different institutions to use the same data.

Since 1 November 2017, all publicly financed healthcare providers (general practitioners, specialist care institutions, etc.) and pharmacies have been obliged to use EESZT services to provide faster, more convenient and more efficient patient care. Since December 2017, everyone has been able to access their eProfile data, event catalogue (i.e. a list of the medical care services administered in the institutions connected to the EESZT), and patient records and documents, including eReferrals and ePrescriptions, after authentication on the Citizen Portal.

As of 31 December 2021, 6 375 general practitioners (95.7%), 190 public in-patient healthcare institutions (91.3%), 2 984 pharmacies (96.3%) and 8 798 private healthcare service providers (70.2 %) were connected to the EESZT cloud. Since the outbreak of the COVID-19 pandemic, the proportion of ePrescriptions has been constantly over 95%, up from 70% before. Also the proportion of telemedicine care increased from 0% before the COVID-19 pandemic to 13% in December 2021. On average, every day 33 000 citizens use the services of the EESZT portal.

6.1.2 Subnational Portals

[eMunicipality Portal](#)

The [eMunicipality portal](#) (*e-önkormányzat Portál*) provides a single point of contact to all eGovernment services provided by local governments (more than 99% of the 3 200 Hungarian local governments), using the Municipality ASP service. The Municipality ASP service provides online form templates to be published by the municipalities themselves, while the portal provides access to these services, such as eIdentification, eAuthentication, eDelivery, pre-filling of personal data, follow-up of cases, etc. ePayment was also introduced in March 2020 following an ongoing pilot with a dozen municipalities. The portal is aligned with the Magyarország.hu portal in terms of design and Single Sign On is provided for the two Portals.

6.2 Networks

Superfast Internet Programme

The **Superfast Internet Programme** was started in 2015 with the goal of providing at least 30 Mbps broadband connection in every part of Hungary. As part of the programme, 500 000 new network termination points were established by the end of 2018, with further developments under way.

The Superfast Internet Programme 2.0 was launched in January 2019, aiming to further develop the networks, raise the capacity to at least 100 Mbps available anywhere in the country and further develop optical networks with gigabit capabilities to expand the gigabit broadband network coverage.

National Telecommunication Backbone Network

The **National Telecommunication Backbone Network (NTG)** is a secure and extensive country-wide broadband network forming the basic infrastructure of electronic government in Hungary. Launched in 2012 with the upgrade of the former Electronic Government Backbone (EKG), launched in 2004, this high-speed network connects the 19 county seats with Budapest, providing the central administration, as well as regional institutions, with a secured and monitored communication infrastructure, supporting data communication, internet access, electronic mail, government intranet, and other services.

Trans European Services for Telematics between Administrations

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

6.3 Data Exchange

Central Government Service Bus

The **Hungarian Central Government Service Bus (KKSZB)** is an interoperability platform that aims to ensure a service-oriented and standardised connection between national base registries and the different specific public administration information systems by unifying communication methods. More specifically, the KKSZB makes it possible to connect systems with different technological, operational and integrational levels, as well as to reduce redundant data storage and data integrity errors resulting from former practice. That way, the KKSZB ensures electronic communication, interoperability and secure data exchange of authentic data among public administrative authorities.

The KKSZB may be joined as service provider and client at the same time, making it technically possible for applications targeted at citizens and businesses to reach all services provided by the connected service providers via the KKSZB, as long as they have permission to do so.

The total number of data exchange transactions via the KKSZB was around 60 million per month in 2021. Since the same year the connection of private service providers has also been possible, with 39 private services connected in live environment. Compared to the last reported year, 87 additional organisations have been connected to the KKSZB. As a result, 205 organisations are now using the platform to provide data exchange services and 356 services related to base registries are available, including most of the 27 registries enumerated by Government Decree 451/2016 (XII 19) on the Detailed Rules for Electronic Administration (i.e. the implementing decree of the eAdministration Act).

Municipality ASP

Following the successful **Municipality ASP** pilot project carried out in 2015–2016, with approximately 100 municipalities involved, the nationwide expansion of the central application service provider for municipalities was launched in 2016 (Municipality ASP 2.0 project) and finished in 2020. As of January 2019, practically all 3 197 local governments of Hungary were connected to the service.

The goal of Municipality ASP is to provide modern, integrated and cost-effective state-of-the-art IT solutions for local governments based on the application service provider's central hardware and software infrastructure, fostering standardised internal operation of local governments and a common platform-based provision of local eGovernment services to citizens and businesses. The service provides integrated back-office systems (financial management software, municipal tax software, document management software, industrial and commercial management software, property cadastre, eAdministration web portal and online form management) for the daily tasks of municipalities, as well as client-side eGovernment services, on a single platform for 99% of all municipalities.

6.4 eID and Trust Services

Client Gate

Hungary has had a comprehensive central identification solution (**Client Gate**) for the identification of citizens for electronic transactions between public authorities and citizens since April 2005. However, a comprehensive solution for the identification of citizens in electronic transactions between public authorities is still lacking. The Client Gate is capable of identifying citizens for any public authority that connects to it.

Central Authentication Agent

In January 2016, a new central identification solution, the **Central Authentication Agent**, was launched, supporting the use of different electronic identification and authentication services, including the already existing Client Gate and the newly introduced national eID card, as well as the partial code telephone authentication. According to current plans, eIDAS authentication will be made available soon.

eID

Since February 2018, eServices already integrated with the Central Authentication Agent service can be accessed via eID with the use of the **Hungarian eID card**. In January 2021, the number of valid eID cards issued since the launch in 2016 reached 5.4 million and the number of Client Gate accounts surpassed 4.5 million. Furthermore, the Hungarian eIDAS node is under development and the preparation for the notification of the Hungarian eID means (eID card) is also in progress.

6.5 eProcurement

Public Procurement Legislation

Public procurement and electronic procurement issues are controlled and managed by one Ministry in Hungary. The **Public Procurement Act** and its **implementing decrees** are prepared by the Office of the Prime Minister, which is also responsible for the eProcurement policy. The monitoring of public procurement is carried out by the Office of the Prime Minister (in procurement procedures financed both by domestic budget and EU funds) and the Public Procurement Authority, subordinated to the Parliament (monitoring of contract and award notices, etc.).

System for eProcurement Infrastructure

The use of a single national eProcurement solution, the **EKR**, is mandated by the Public Procurement Act for all contracting authorities and contracting entities in public procurement procedures both below and above EU public procurement thresholds. The EKR is operated by **NEKSZT Ltd.**, a State-owned company under the control of the Office of the Prime Minister.

The EKR was developed in late 2017 and from 1 January to 14 April 2018 was used on a voluntary basis. However, eProcurement through the EKR has become compulsory for all contracting authorities since 15 April 2018 (though central purchasing bodies may partially use their own platforms). At that point, the paper-based administration of procurements ceased.

Online Invoice System

Since July 2018, **eInvoicing** has become obligatory for transactions including an output VAT of more than HUF 100 000 (approximately EUR 320) between domestic taxpayers. In July 2020, the amount of output VAT was reduced to HUF 0, with all invoices issued between domestic taxpayers being exchanged through the available system.

In January 2021, the obligation of sending invoice data was extended to all kinds of invoices issued by domestic taxpayers, but taxpayers had an additional three months to prepare themselves for fulfilling the obligation without any sanction. For this purpose, the National Tax and Customs Administration (NTCA) developed and launched a central **Online Invoice System** connected to the financial management software or the enterprise resource planning (ERP) system of businesses via machine-to-machine interface. In case of paper invoices, data must be provided manually using the online service within five days, also encouraging businesses to turn to the use of eInvoicing. The NTCA also provides an online invoicing solution free of charge, mainly for SMEs, that can be used to issue eInvoices as well as paper invoices, and automatically sends the invoice data to the NTCA, regardless of the amount of output VAT. To promote and encourage eInvoicing and digital administration, in May 2020 this free online invoicing programme was made available through a mobile app, also helping to reduce administrative steps.

eInvoicing in Public Procurement

To comply with Directive 2014/55/EU on electronic invoicing in public procurement, since 18 April 2019 the Public Procurement Act has been requiring contracting authorities to receive and process invoices which comply with the relevant European standard. The Public Procurement Act does not clarify further the means to process invoices, leaving it to the contracting authorities to choose the method of transmission and processing.

A so-called eInvoicing module is also available in the EKR, enabling to verify whether an invoice complies with the European standard EN 16931-1:2017 and the syntax list

published by the European Commission in the Official Journal of the EU. The eInvoicing module can help contracting authorities to decide whether they have a legal obligation to receive and process a specific invoice or not.

6.6 ePayment

Electronic Payment and Settlement System

NISZ Zrt., as the provider of the Electronic Payment and Settlement System (EFER), provides an electronic payment service for both electronic and traditional paper-based procedures. EFER is a central electronic payment service (with an associated settlement system) that allows customers to fulfil their payment obligations to electronic administration bodies using a bank card, a virtual bank card or an internet bank. Furthermore, it allows for a single transaction to be used to pay fees related to a given case but payable on a different basis, as well as for the paid amount to be cleared to the target accounts.

6.7 Knowledge Management

No particular infrastructure in this field has been reported to date.

6.8 Cross-border platforms

No particular infrastructure in this field has been reported to date.

6.9 Base registries

Personal Data and Address Registry

As the most important base registry, the **Personal Data and Address Registry**, maintained by the Ministry of the Interior, is a public official registry that contains and certifies the personal and notification addresses specified by law for registered citizens, as well as any changes thereto. The role of the registry is to collect and manage the data and changes specified in Act LXVI of 1992 on the Registration of Citizens' Personal Data and Addresses, to issue documents and to provide data on them to those entitled under the act. Data are provided to other eGovernment services via the KKSZB data exchange platform.

TAKARNET Network

The Hungarian Land Office of the Unified Real Estate Registration System in Hungary, the **TAKARNET Network**, is an intranet-like network of land offices, connecting all official entities involved in the land administration sector and providing online access to the continuously updated land registration data. Furthermore, the network also provides online access for external users (registered and authorised). Depending on their registered rights, users have access to data ranging from all registered data regarding Hungary's land and properties to a more limited subset of information. The network has been up and running since April 2003.

Association Registry

The **Association Registry** helps to connect associated public administration registries and professional systems via an interoperable programmed service interface, ensuring interoperability between full sets of data and facilitating the exchange of data based on the encrypted contact code. To protect personal data in line with the strict Hungarian privacy rules prohibiting the use of a single identification number for individuals, the Association Registry does not include any personal information or

other sectoral ID, using encrypted contact codes instead. Currently, the number of items contained in the Association Registry is 13.5 million, with 8.2 million generated as encrypted contact code based on ID cards (ID items) and 2.8 million generated as encrypted contact code based on passports (passport items).

Electronic Register of Registers

The EÜF, in accordance with the eAdministration Act and the related implementing regulations, shall manage and publish the Register of Information Sources (based on the content of the information transfer rules submitted), and the List of Data and Document Titles. The purpose of the Register of Information Sources is to identify redundant administrative burdens in public services, as well as to enable citizens and other organisations to know what public administration organisation keeps what kind of records and under what procedure, and how to claim data.

The **Electronic Register of Registers (NyENy)** is a registration system where (i) information transfer rules can be prepared and recorded; and (ii) the Register of Information Sources, and the List of Data and Document Titles can be managed. The NyENy helps to develop the interpretation of standard definitions, to simplify the process of administration, to extend the recent information system techniques and technological solutions, and to guide clients (citizens or representatives of public services).

6.10 Emerging Technologies

6.10.1 *Artificial intelligence (AI)*

AI-assisted building block services

Following the regulatory measures supporting the uptake of AI-based solutions by the public sector mentioned above, the following three AI-assisted building block services developed by the Ministry of the Interior became available for public administration reuse: the AI-assisted voice generator service (text-to-speech), the AI-assisted voice description service (speech-to-text) and the AI-assisted communication assistant (chatrobot), a software solution capable of conducting conversation and interactive communication very similar to human dialogue in a collaborative manner automatically, with or without human intervention, through a machine self-learning process. All three AI-assisted services use deep learning to learn continuously in a supervised way. The new central AI-based building block services will be offered by the GDC, thus ensuring the highest security requirements for closed electronic information systems, so that services used by the client will not be available to third parties. The services will be available for public administration organisations through the KKSZB.

These services will further increase the number of cases that can be handled in a contact-free manner without personal appearance, and will guarantee that oral statements made via the service will be considered the same as written ones.

6.10.2 *Distributed ledger technologies*

No particular infrastructure in this field has been reported to date.

6.10.3 *Big data*

No particular infrastructure in this field has been reported to date.

6.10.4 *Cloud computing*

Government Data Centre

Avoiding using external (public and hybrid) cloud services in the public administration is a key element of the Hungarian government's IT policy. This is why the Hungarian government started to develop the GDC. The GDC is a geo-redundant data centre that provides central IT infrastructure capable of providing a cloud-based service environment for government, public administration and public services. The service provider of the GDC is the State-owned NISZ Zrt., designated by law and controlled by the Ministry of the Interior. As a result of last years' development, the share of the cloud-enabled data centre capacity provided by NISZ Zrt. is 24.6% of the total governmental server room infrastructure. More than 100 public administration systems have been set up and installed, and are running in the GDC.

6.10.5 *Internet of Things (IoT)*

No particular infrastructure in this field has been reported to date.

6.10.6 *High-performance computing*

High Performance Computing Infrastructure and Ecosystem

As Hungary's supercomputer infrastructure is underdeveloped (with a total capacity of less than 0.5 PetaFlops), the country is not able to serve the growing needs of research and development (R&D), and industrial innovation. As a result, the Ministry of Innovation and Technology is working to significantly improve the available national HPC capacity.

Hungary's supercomputer infrastructure is being expanded in accordance with the two-phase development process defined by [Government Decree 1422/2020](#). The first phase, to be concluded by the end of February 2022, aims to increase its capacity to 5 PetaFlops. The second phase is in the preparatory stage, with the goal to build and operate a national HPC infrastructure of at least 20 PetaFlops by 2025. The launch of HPC services is planned for 2022.

The specifications of the HPC hardware and software to be purchased have been defined and the public procurement process has been launched in March 2021. Similarly to the hardware and software procurements, the construction works have also been started to renew and refurbish the building and technology facilities at Debrecen University.

6.10.7 *High-speed broadband connectivity*

No particular infrastructure in this field has been reported to date.



7

Cross-border Digital Public Administration Services

7 Cross-border Digital Public Administration Services

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 Mihály Dán, eGovernment advisor at the Ministry of Interior of Hungary.



The Digital Public Administration factsheets are prepared for the European Commission by [Wavestone](#).

An action supported by Interoperable Europe

The ISA² Programme has evolved into **Interoperable Europe** - the initiative of the European Commission for a reinforced interoperability policy.

The work of the European Commission and its partners in public administrations across Europe to enhance interoperability continues at full speed despite the end of the ISA² programme. Indeed, enhanced interoperability will be necessary to unlock the potential of data use and reuse for improved public services, to enable cross-border collaboration, and to support the sector-specific policy goals set by the Commission for the future.

Interoperable Europe will lead the process of achieving these goals and creating a reinforced interoperability policy that will work for everyone. The initiative is supported by the **Digital Europe Programme**.

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