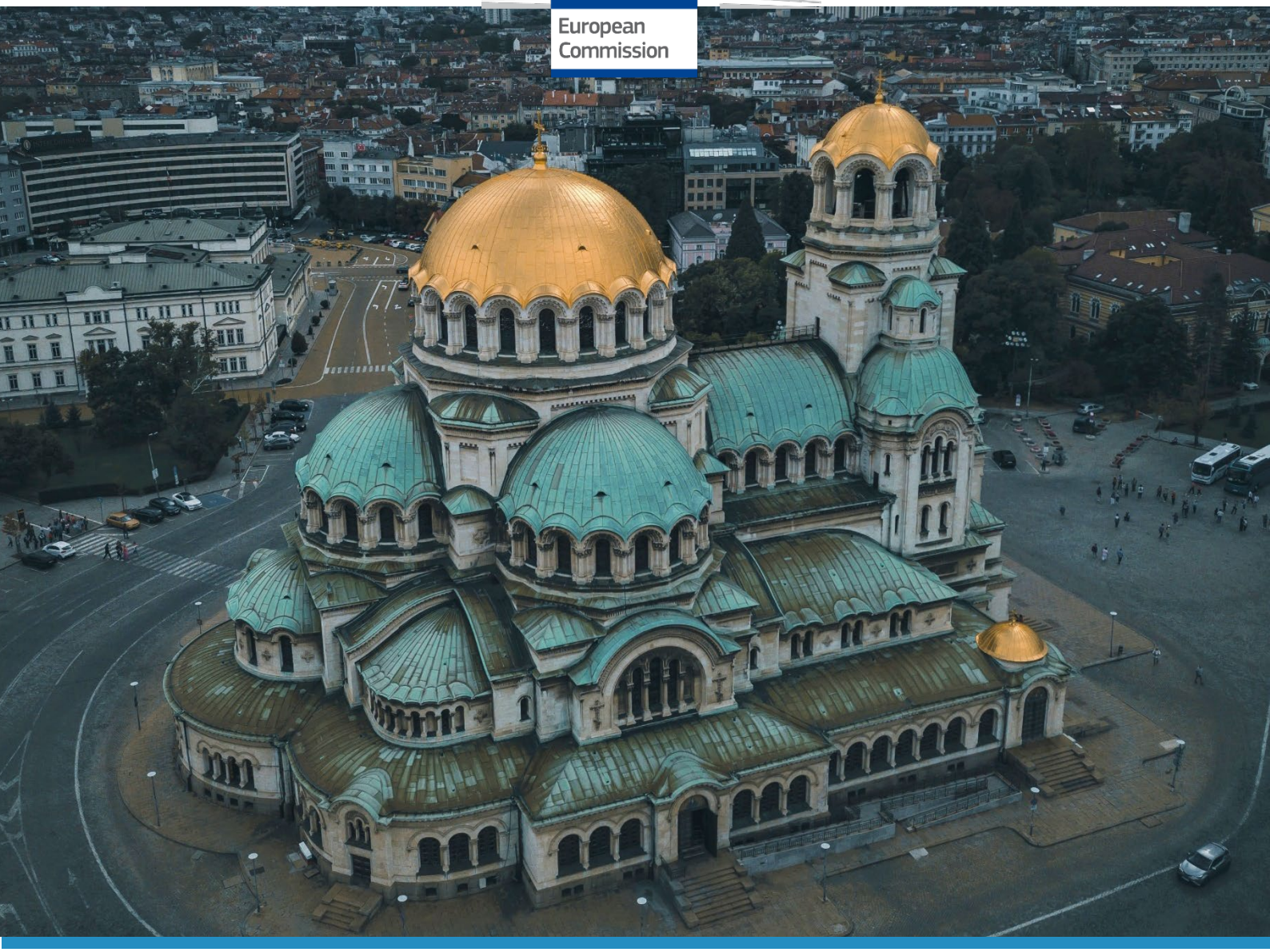
European Commission



Digital Public Administration factsheet 2022

Bulgaria

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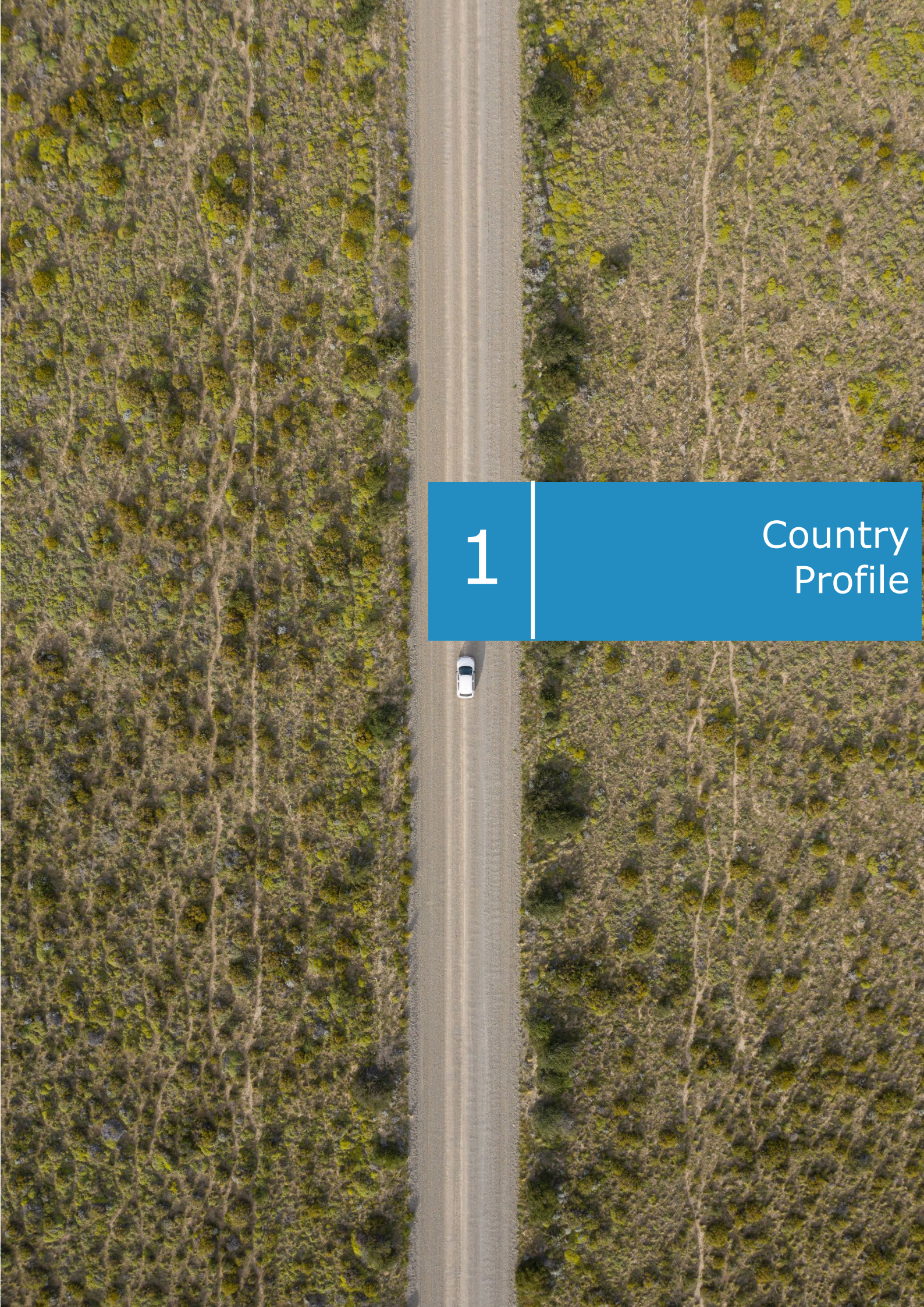


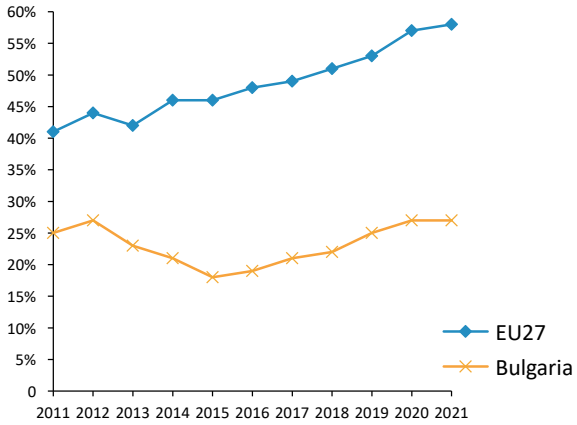
1 Country Profile

1 Country Profile

1.1 Digital Public Administration Indicators

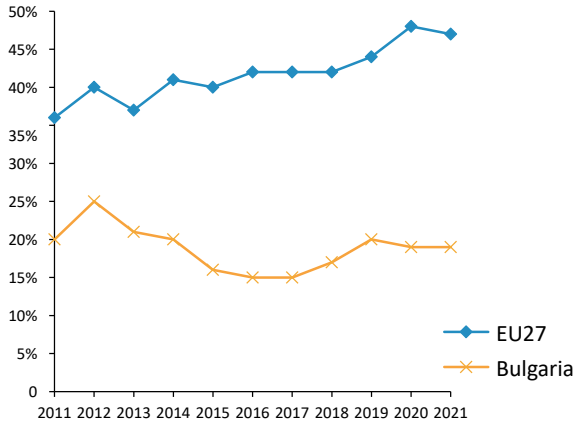
The following graphs present data for the latest Generic Information Society Indicators for Bulgaria compared to the EU average. Statistical indicators in this section reflect those of Eurostat at the time the Edition is being prepared.

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



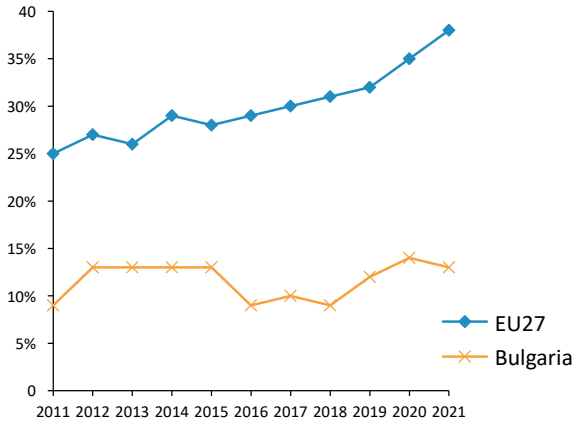
Source: Eurostat Information Society Indicators

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



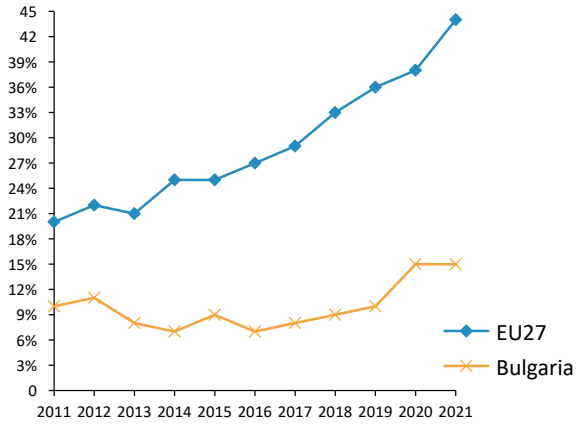
Source: Eurostat Information Society Indicators

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



Source: Eurostat Information Society Indicators

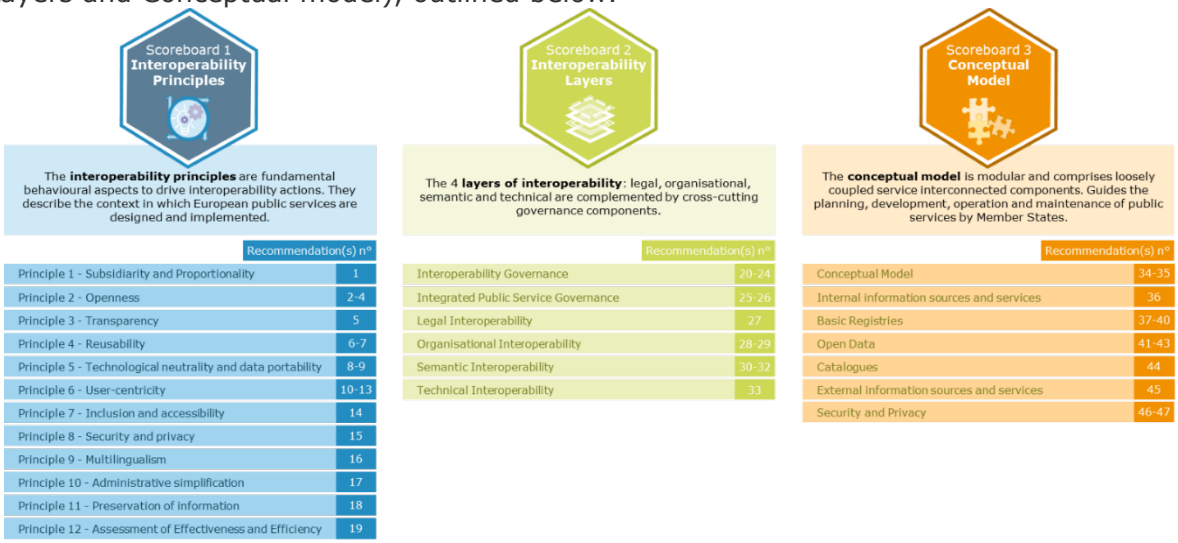
Percentage of individuals using the Internet for sending filled forms to public authorities in Bulgaria



Source: Eurostat Information Society Indicators

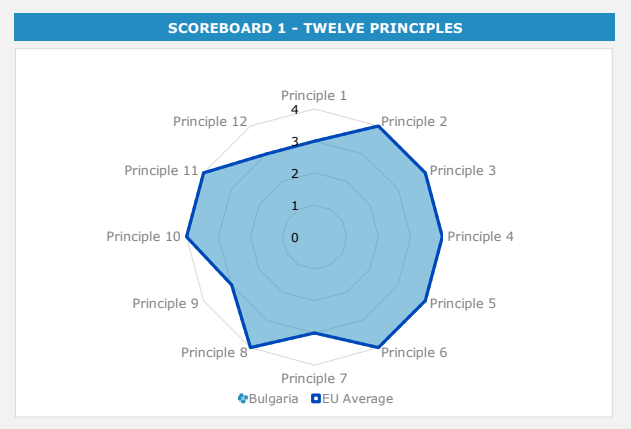
1.2 Interoperability State of Play

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

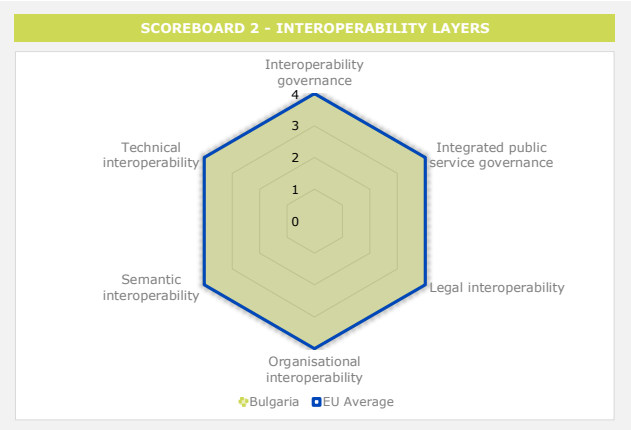
For each of the three pillars, a different scoreboard was created to breakdown the results into their main thematic areas (i.e. the 12 principles of interoperability, the interoperability layers and the components of the conceptual model). The thematic areas are evaluated on a scale from one to four,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



Source: European Interoperability Framework Monitoring Mechanism 2021

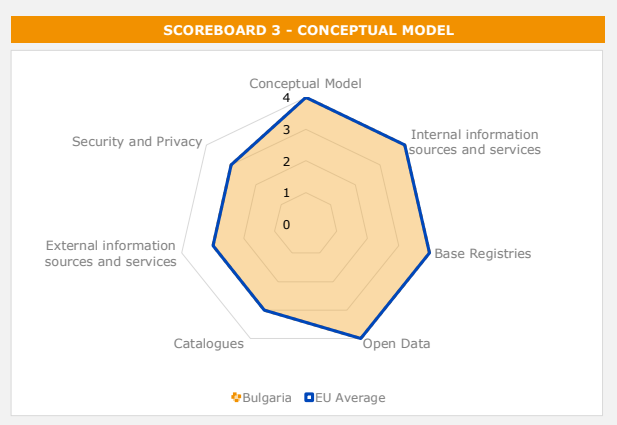
Bulgaria's results in Scoreboard 1 show an overall good implementation of the EIF Principles, scoring as good as the European average for all 12 principles. While already reporting a high performance in Recommendation 10 (Principle 6 – User centricity), Bulgaria still has margins for further improvement. Indeed, the country could foster the use of multiple channels to provide European public services to its citizens and ensure that users can select the channel that best suits their needs. In addition, Bulgaria could also work on improving the implementation of Recommendation 16 (Principle 9 –

Multilingualism) by fostering the use of information systems and technical architectures that cater for multilingualism when establishing a European public service.



Source: European Interoperability Framework Monitoring Mechanism 2021

The Bulgarian results for the implementation of interoperability layers assessed for Scoreboard 2 shows an overall good performance, scoring 4, and at the European average, in all the layers. While already reporting a high performance in the interoperability governance layer, Bulgaria has margins for further improvement in relation to the active participation in standardisation work relevant to users' needs to ensure citizens requirements are met (Recommendation 24).



Source: European Interoperability Framework Monitoring Mechanism 2021

Bulgaria' scores concerning the Conceptual Model in Scoreboard 3 illustrate a good performance in all the seven indicators, mirroring the EU average. However, some areas of improvement relate to the implementation of recommendations related to catalogues, external information sources and services as well as security and privacy. Particularly, the Bulgarian score in Scoreboard 3 could be bettered by increasing the efforts in open data namely, by publishing open data in machine-readable, non-proprietary formats and ensure that open data is accompanied by high quality, machine-readable metadata in non-proprietary formats, including a description of their content, the way data is collected and its level of quality and the licence terms under which it is made available (Open Data – Recommendation 42). Lastly, in order to obtain a score of 4 in security and privacy, Bulgaria should further implement the use of trust services according to the Regulation on eID and Trust Services as mechanisms that ensure secure and protected data exchange in public services (Security and Privacy - Recommendation 47).

Additional information on Bulgaria's results on the EIF Monitoring Mechanism is available online through interactive dashboards.

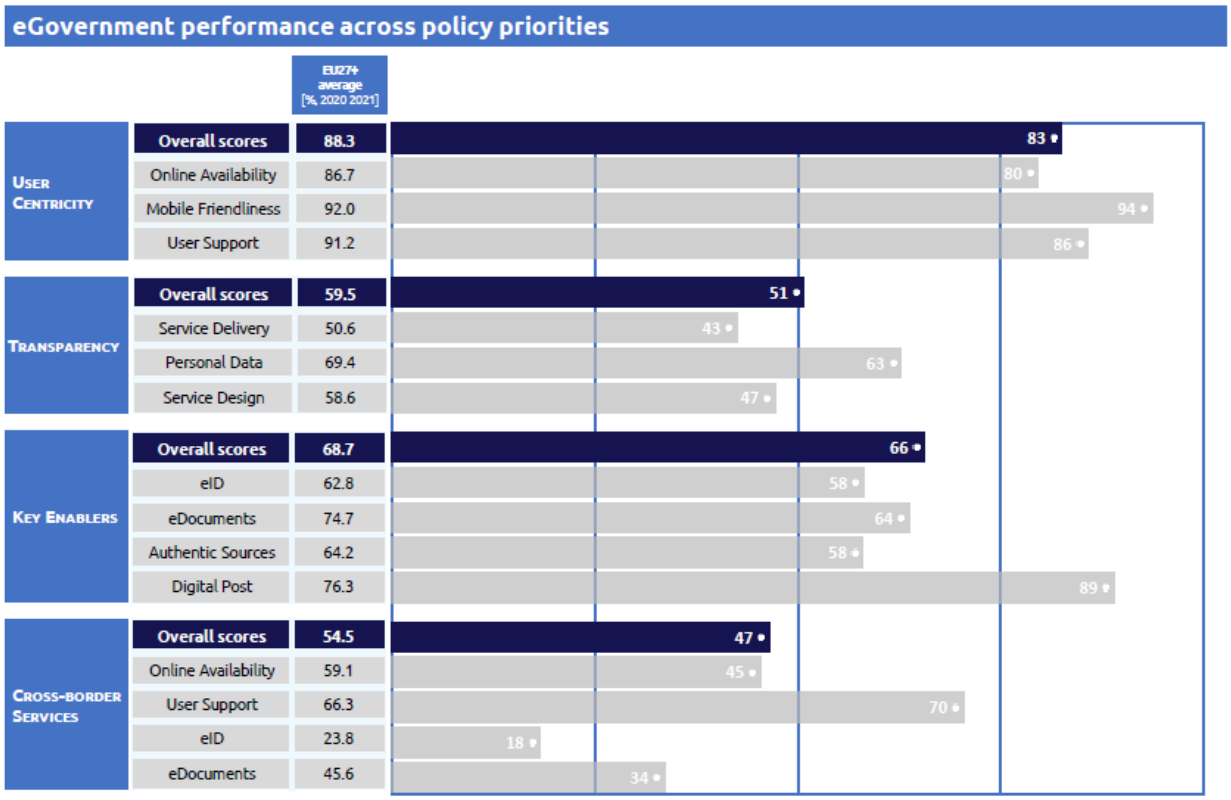
1.3 eGovernment State of Play

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

2 Digital Public Administration Highlights

Digital Public Administration Political Communications

From the end of 2021, the Bulgarian government has been implementing the Agreement on Joint Governance of the Republic of Bulgaria in the period 2021-2025. Within the agreement, digital transformation is among the main priorities that all signatories agree upon. The political programme on eGovernment (Annex 8 to the Agreement) outlines a strong political commitment to ensure a working eGovernment, leading to: security, protection, convenience, speed and effectiveness for both citizens and administration; transparency, audit trail and control; good governance; reengineering of processes and better policymaking through digital technologies and data analyses. The programme includes a total of 43 measures.

Bulgaria is also a founding member of the EuroHPC Joint Undertaking and has supported the establishment of a petascale supercomputer – the Discoverer Supercomputer, located at Sofia Tech Park, Sofia, Bulgaria. It is funded by a joint investment by EuroHPC JU and the Bulgarian Government. It was inaugurated in October 2021 and is currently available for application.

Digital Public Administration Legislation

In February 2022, through amendments to the eGovernment Act, all powers exercised by the Chairman of the State eGovernment Agency in the field of eGovernment, as well as powers in the field of information technologies and information society, are now assigned to the Minister of eGovernment.

Digital Public Administration Governance

By a Decision of the National Assembly of 13 December 2021, a new structure of the Council of Ministers of the Republic of Bulgaria was adopted, which also includes the establishment of a new Ministry of eGovernment.

A Big Data for Smart Society Institute (GATE) has also been established, in which the State eGovernment Agency (SEGA) is a partner. The GATE's Digital Twin Lab is designed to create and demonstrate so-called digital twins of industrial/business processes and products. The laboratory includes an intelligent platform for interdisciplinary collaboration in the development of new tools, applications and technologies for automation, production, customisation and management in the industry.

Digital Public Administration Infrastructure

Since June 2021, the State Hybrid Private Cloud (SHPC) is officially in operation, providing ICT services, such as co-location, Infrastructure-as-a-Service, Platform-as-a-Service, as well as different resources for over than 50 centralised and administrative eGovernment systems. The upgrade of the SHPC is envisaged in terms of providing ICT services as Software-as-a Service (SaaS) and cloud services for public authorities, among which will be such based on Advanced Technologies, e.g. Document data extraction, Workflow tools, Business Intelligence & Analysis, Cloud Computing for public authorities.

3 Digital Public Administration Political Communications

3 Digital Public Administration Political Communications

3.1 Specific political communications on digital public administration

Digital Transformation of Bulgaria for the Period 2020–2030

On 21 July 2020, the Council of Ministers of the Republic of Bulgaria approved the national strategy titled 'Digital Transformation of Bulgaria for the Period 2020–2030', a document aimed to pave the path for the digital transformation of Bulgaria during the current decade. The document recognises digital transformation as an important process to create the conditions to foster growth and innovation and improve the outlook of the job market while providing citizens with high living standards.
The 'Digital Transformation of Bulgaria' relies upon four key principles:

- A user-oriented approach and access to all digital services;
- Ethical and socially responsible access, use, sharing and management of data;
- Technology as a key factor; and
- Cooperation with multiple stakeholders.

The strategy also sets six main objectives to be achieved within the current decade:

- Developing a secure digital infrastructure. The implementation of high-capacity networks is paramount in order to create the right conditions for a dynamic economy that supplies innovative services to business operators;
- Accessing the adequate technological knowledge and digital skills. The lack of competences in information and communication technology (ICT)-related fields as well as the inadequate knowledge possessed by the workforce represents one of the main challenges for the educational system;
- Strengthening the research and innovation capacity. Technological advances rely on research and development activities targeting key innovative SMEs;
- Unlocking the data potential. The digital transformation of the Republic of Bulgaria should be based on a data economy that puts both privacy issues and data quality at its centre. The government will undertake all the steps needed to foster data collection, processing and storage as well as their efficient re-use;
- Digitalising in favour of a circular and low-carbon economy. The digital transformation should increase the competitiveness of the national economy while fostering the transition to a low carbon footprint; and
- Improving the public administration efficiency and the quality of public services. The development and implementation of interoperable interfaces and data management models contribute to the transition from data to linked data, allowing the public administration to rapidly adapt to the fast-changing digital environment.

Updated National Broadband Infrastructure Plan for Next Generation Access 'Connected Bulgaria'

On 6 August 2020, the Council of Ministers adopted, with Decision No. 555, the updated National Broadband Infrastructure Plan for Next Generation Access 'Connected Bulgaria'. The updated plan identifies the steps to be undertaken in order to setup the infrastructure necessary for the operation of various digital services. The measures envisage improving access to high-speed internet in sparsely populated regions as well as developing high-speed mobile internet across the country. Investments for the introduction of fifth-generation mobile networks are of key importance for the digitalisation of the Bulgarian economy and public services. Furthermore, the updated plan sets out the need for targeted investments in technological development, the completion of the necessary infrastructure, a secure network and information security.
The main priority areas of the plan 'Connected Bulgaria' are:

- An ultra-high-speed infrastructure – creating conditions for the deployment of networks with very large capacity;
- A broadband infrastructure – accelerating the construction of a broadband infrastructure, accounting for the needs of the State administration;
- The effective use of radio frequency spectrum – creating conditions for building a new generation network;
- The maintenance of coverage in settlements located in peripheral, scarcely populated, and rural areas;
- The promotion of the use of digital technologies by providing free internet access; and
- Network security.

National Programme 'Digital Bulgaria 2025'

The National Programme 'Digital Bulgaria 2025' and the roadmap for its implementation were adopted by Decision No. 730 of the Council of Ministers on 5 December 2019.
The programme is a continuation of the National Programme 'Digital Bulgaria 2015', building both on its achievements and on the new European strategic and programming guidelines to achieve a smart, sustainable and inclusive digital growth by 2025. Digital Bulgaria 2025 aims at modernizing and fostering the implementation of intelligent IT solutions in all areas of the economy and social life by creating an environment for the widespread use of information and communication technologies, new technologies for businesses and citizens, uniform standards and a high level of network and information security and interoperability. It sets out the objectives, measures and activities related to the development and widespread use of ICT and the commitment of the different institutions within their sectoral policies.
Six key priority areas for action have been identified in order to achieve smart, sustainable and inclusive digital growth in the period up to 2025:

- The establishment of appropriate conditions for the development and accessibility of digital networks and services;
- The development of a dynamic and innovative digital economy and the increase of its growth potential;
- The enhancement of digital competences and skills;
- The establishment of effective and high-quality public eServices for businesses, citizens and government;
- The promotion of a secure cyber ecosystem by addressing the challenges of cybersecurity; and
- Internet governance.

In December 2021, a report on the implementation of the national programme 'Digital Bulgaria 2025' was published and the respective national roadmap leading up to 2025 was updated. The documents are available here.

Strategy for the Development of eGovernment in the Republic of Bulgaria 2019–2025

In line with the European framework and with the principles for the implementation of the eGovernance policy, the Republic of Bulgaria has updated its vision and policy set out in the Strategy for the Development of eGovernment in the Republic of Bulgaria 2014–2020 and has extended the time horizon for its implementation.
The updated strategy was adopted in 2019. It ensures the implementation of the current European eGovernment principles introduced at national level and builds on the achievement of the goals beyond 2018. The document serves as a framework for the elaboration of strategies by policy areas. It also outlines the strategic framework for the definition of goals and activities for the central and territorial administration, with the aim of achieving digital public institutions and consumer-oriented electronic administrative

services, covering both public service providers and public service organisations. The vision of the Republic of Bulgaria in the field of eGovernment by 2023 covers:

- Transforming the model for the provision of user-oriented electronic administrative services, by changing the technological and administrative processes behind them, resulting in a reduction of the administrative burden for citizens and businesses;
- Building a modern digital administration;
- Ensuring a high level of network and information security; and
- Establishing high-quality support for shared eGovernment resources.

The strategic goal of the strategy is the complete transformation of administration and public institutions into digital and user-oriented electronic administrative services.
To achieve these strategic goals, an Updated Roadmap for the Period 2019–2023 was adopted, that includes priority measures, responsible institutions and sources of funding. The roadmap has taken a new approach, incorporating measures in the area of justice in order to ensure interoperability, overcoming critical factors and achieving effective and transparent eGovernance. The document includes delayed stage-1 projects from the previous roadmap 2015–2017. A concept for a register reform was adopted as an annex to the strategy. The concept defines goals, principles, scope, reform stages and measures of the existing model.
On 2 April 2021, the Council of Ministers with the Decision No. 298 adopted a new updated Strategy for the Development of eGovernment in the Republic of Bulgaria by 2025. In line with the development trends for the new decade, a leading priority has been identified in the digital transformation of the public sector focusing on the data that are defined as key capital for society. The availability of increasingly more digital data and the improvement of the way they are managed and used are essential in addressing the challenges affecting the demographic and socio-economic spheres, as well as climate and the environment, so as to contribute to a healthier, more prosperous and more sustainable society. The huge potential of data for implementing the digital transformation of the public sector in Bulgaria, and the creation of innovative public services for citizens and businesses in the country, are brought to the fore. The goal is to unlock the potential of data for the achievement of sustainable digital transformation of the State administration in the Republic of Bulgaria by 2025.

Architecture of eGovernment

The architecture of the electronic government is an integral element of the eGovernment policy implementation, as defined in the Electronic Government Development Strategy of the Republic of Bulgaria and the Electronic Government Act. The main principle underlying and enabling its implementation is an efficient coordination between all stakeholders.
The architecture of the electronic government in Bulgaria, approved by Order No. DAEU-5040 of 11 April 2019 of the Head of the State eGovernment Agency, aims to achieve the following goals:

- Digital transformation of civil services;
- Mandatory use of horizontal systems and shared resources of eGovernment by the administrative bodies;
- Setting mechanisms for the implementation, coordination and control of the architecture;
- Applying unified standards and the principle of interoperability in designing, building, further developing and implementing IT solutions;
- Determining the players in the electronic government, their functions, the principles of eGovernment, system requirements and technological architecture;
- Establishing a sustainable high level of network and information security;
- Transforming data into information and knowledge; and
- Achieving a high level of trust on the part of citizens and businesses.

Agreement on Joint Governance of the Republic of Bulgaria in the period 2021–2025

At the end of 2021, the Bulgarian government signed an Agreement on Joint Governance of the Republic of Bulgaria in the period 2021–2025. The document identifies digital transformation among the main priorities that all signatories agree upon. The political programme on eGovernment (Annex 8 to the Agreement) outlines a strong political commitment to ensure a working eGovernment, leading to: (i) security, protection, convenience, speed and effectiveness for both citizens and administration; (ii) transparency, audit trail and control; (iii) good governance; and (iv) reengineering of processes and better policymaking through digital technologies and data analyses. The programme includes 43 measures. In addition to the establishment of the Ministry of eGovernment, other measures are planned to be implemented in the fields of:

- Secure eID;
- Transformation of e-services;
- Establishment and/or development of key centralized systems and registers;
- Data collection and processing in key areas;
- Upgrade of the State Hybrid Private Cloud;
- Open data; and
- Increase in the level of information security, etc..

Berlin Declaration on Digital Society and Value-Based Digital Government

In December 2020, the Bulgarian government signed the Berlin Declaration on Digital Society and Value-Based Digital Government, thus re-affirming its commitment – together with other 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.

3.2 Interoperability

Bulgarian National Interoperability Framework Draft

In 2022, the Bulgarian National Interoperability Framework (BNIF) is being updated in line with the European Interoperability Framework. The process is expected to be completed by July 2022. The aim of the Bulgarian Interoperability framework is to facilitate public sector activities and to increase public sector efficiency in Bulgaria by improving the quality of services provided to Bulgarian and EU citizens. The specific objectives of the framework are the following:

- Contributing to the development of a service-centred community;
- Contributing to greater transparency of information related to political decisions on public information systems;
- Supporting the joint delivery of services in the public sector;
- Creating the conditions for free competition in the development of ICT in the administration;
- Reducing and optimising public sector IT expenses;
- Promoting and supporting the delivery of public services in Bulgaria by fostering cross-border, cross-sector and cross-organisation interoperability; and
- Guiding Bulgarian public administrations in their work to provide public services to businesses and citizens.

Reference Interoperability Architecture and Centralised Registry Development and Maintenance Information System

In 2020, the State eGovernment Agency began implementing a project on the development and implementation of the Reference Interoperability Architecture (RIA) and the

Centralised Registry Development and Maintenance Information System. The activities include the definition of architectural building blocks structured according to the four layers of the OS:

- Legal (legal view);
- Organisational view;
- Technical (technical - application view, technical - infrastructure view); and
- Semantic (semantic view).

The project also envisages the development of a plan for gradual RIA implementation, as well as the necessary legislative amendments.

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

Introduction of the Cloud Electronic Signature

The Bulgarian National Electronic Identification Scheme is still temporarily suspended after an appeal from one of the applicants to the public procurement procedure. The Bulgarian Supreme Administrative Court has referred a question to the Court of Justice of the European Union.

In 2019, the Cloud Electronic Signature was introduced, as a new means of electronic identification in addition to the existing ones (QES, personal identification code of the National Revenue Agency and the National Social Security Institute, unique access code of the National Health Insurance Fund). With the cloud signature, citizens and businesses are able to request the services provided by the administration through a mobile smart device with internet access from anywhere in the world, 24/7, 365 days a year. With it, each user is able to access the Unified Portal for Access to Electronic Administrative Services maintained by the State eGovernment Agency.

In 2019, a project was prepared to build a two-factor authentication system. The project aims at providing an effective and easy way to yield additional security to user identity verification. This code can be sent to a mobile device and be either generated by a specific application, a physical device (token) or other technological means. Using the two-factor authentication system to gain access to the requested administrative service, users must confirm their identity in two steps and via two channels.

The use of a two-factor authentication is a widespread and reliable solution in terms of information security.

3.3.3 Security aspects

National Cybersecurity Strategy

On 18 July 2016, with Decision No. 583, the Council of Ministers adopted the National Cybersecurity Strategy 'Cyber Sustainable Bulgaria 2020'. The strategy outlined the stages of development as well as the security targets to be achieved for a basic information security and cyber hygiene to an information society capable of withstanding hybrid threats in all areas.

Furthermore, the strategy defined the mechanisms for coordination at strategic, political, operational and technical levels, as well as an effective platform for information exchange and collective response. The objectives and measures, as well as the wide application of various forms of public-private partnerships, were defined in nine main areas.

With Decision No. 301 of 2 April 2021, the government approved an updated National Cybersecurity Strategy 'Cyber Sustainable Bulgaria 2023'. The updated strategy builds on the National Cybersecurity Strategy 'Cyber Sustainable Bulgaria 2020'. Its implementation

set up a fully integrated national cybersecurity ecosystem with the ability to adapt to the dynamics of global cyberthreats and to respond to large-scale attacks against Bulgarian information resources. Integration into the cybersecurity system of the European Union is a strategic goal set in the National Development Programme 'Bulgaria 2030'. The implementation of the updated cybersecurity strategy guarantees that the Republic of Bulgaria will be a reliable and sustainable partner and participant in the common networks and systems and collective security with its Euro-Atlantic partners, with innovative and advanced technological development, respectively the priorities for economic and social development, and with the capacity and ability to participate in the prevention and overcoming of evolving cyberthreats and crises.

3.3.4 Interconnection of base registers

Concept for Registry Reform

By Decision No. 546 of the Council of Ministers of 18 September 2019, the government adopted a Concept for Registry Reform. The concept document aims to optimise the organisation of the registries in the State administration and to reduce the costs for their maintenance. The final objective is to ensure official exchange of information and data for the provision of quality services, based on registries from other administrative bodies. While covering all registries at central and local level, the document did not include in its scope those that contain classified information.
The principles on which the registry reform is based are:

- One subject area - one registry;
- Application of the 'Once-Only principle';
- Digitalisation;
- Functional division;
- Unification of the structure, data format and technological processes;
- Control over own data;
- Open data; and
- Technology neutrality, open source and backup of data.

With Decision No. 298 of the Council of Ministers of 2 April 2021, the updated Concept for Registry Reform was adopted. It has been supplemented with new measures aimed at the digitisation of paper datasets and the optimisation of key registries.

3.3.5 eProcurement

Electronic Public Procurement Awarding

Electronic awarding has become compulsory from 1 January 2021. Electronic awarding is the awarding of public procurements, carried out by electronic means, using the generally accessible, centralized and electronic public procurement platform. The European directives concerning public procurement (Directive 2014/24/EU and Directive 2014/25/EU) require the mandatory incorporation in the national legislation of the option for electronic submission of offers (bids), the introduction of fully electronic communication in the award process and the use of online tools for awarding the public procurement. The Public Procurement Act (Article 39a) regulates the possibility for public procurement award, including through dynamic purchasing systems, framework agreements and qualification systems, as well as for holding competitions for a project through the centralized electronic platform.

3.4 Domain-specific political communications

eInsurance

In 2019, the government approved the strategy eInsurance 2018–2023 and a roadmap for its implementation. The strategy, which extends and further expands the Strategy for the Development of the National Social Security Institute 2018–2021, outlines technological priorities and determines the approach and principles for their implementation. A detailed roadmap at project level has been developed for the same period to achieve the objectives of the eInsurance Sectoral Strategy.

eCustoms

The eCustoms Sectoral Strategy for the period 2016–2025 outlines the technological priorities for the National Customs Agency to create eCustoms by 2025 and determines the approach and principles for their implementation. A roadmap 2016–2025 was developed to achieve the objectives of the strategy.

eJustice

The eJustice Strategy is a fundamental document for the unified policy formation, planning, implementation, coordination and control in the Justice sector, conducted by State institutions in cooperation with citizens, businesses and professional organisations. The document has been developed in accordance with the programmes of the government of the Republic of Bulgaria for the development of eGovernment and the initiative of the European Commission 2020 and reflects the importance of the processes for the development of accessible and effective eJustice. The main objective of the strategy is to increase productivity in the justice sector through the use of electronic documents not only by the judiciary, but also by all the bodies in the sector, also when interacting with other administrative bodies, organisations, citizens and business.

eHealth

In December 2020, the government took action to draft the National Health Strategy 2021–2030. eHealth represents one of the pillars for the implementation of the strategic goals and priorities of the National Health Strategy 2030. Innovative solutions in the field of eHealth help to prevent diseases and promote a healthy lifestyle, lead to improvements in the quality of life of citizens while enabling more effective ways of organizing and delivering health services and care.

3.5 Emerging technologies

3.5.1 Artificial Intelligence (AI)

Concept for the Development of Artificial Intelligence in Bulgaria by 2030

In October 2020, the government adopted a concept for the creation of Artificial Intelligence (AI) in Bulgaria by 2030. The concept is based on documents developed by a team of the Bulgarian Academy of Sciences (BAS) and external experts, namely: the Framework for National Strategy for the Development of Artificial Intelligence in Bulgaria (2019) and the National Strategy for Development of Artificial Intelligence in Bulgaria by 2030 (preliminary vision) – in 2020. The application of AI in sectors such as education, public services, agriculture, healthcare, and environment is the main priority of the document.
The document offers a comprehensive vision for AI development and use in Bulgaria. It is based on the strategic priorities set by the European Commission, which considers AI as one of the main drivers of digital transformation in Europe.

The main goal of the concept document is to convey the efforts into the development and implementation of AI systems by creating scientific, business and managerial capacity at national level. Moreover, the concept document outlines the main steps ahead to provide modern communication and scientific infrastructure for the development of new generation digital technologies. The document also identifies the need to improve the lifelong education and training system. In the future, AI will support the development of research and innovation activities in key sectors. Furthermore, the document outlines the introduction of an ethical and legal regulatory framework as key milestone to ensure broad public trust.

Artificial Intelligence in the Strategy for the Development of eGovernment in the Republic of Bulgaria 2021–2023

In the updated eGovernance Strategy for the period 2019–2025, along with the updated roadmap for its implementation, measures were included for the development and use of innovative technologies in the public sector such as AI, blockchain, IoT and big data. As pointed out in the Coordinated Action Plan, big data are the basis for the development of efficient AI technologies. In this regard, Bulgaria included specific measures for the extensive use of chatbots in eGovernment services and the development of services that use machine learning in order to predict client behaviour and facilitate the use of public services online.

Strategy for the Digitisation of Agriculture and Rural Areas

Bulgaria adopted a Strategy for the Digitisation of Agriculture and Rural Areas that includes measures based on AI and blockchain.
The strategy envisages the use of artificial intelligence to track production, protect against pests, create a continuous farm-to-table chain, and ease the administrative burden for farmers accordingly.

Industry 4.0

By Protocol Decision No. 37 of 30 August 2017, the Council of Ministers approved the 'Concept for the Digital Transformation of the Bulgarian Industry (Industry 4.0)' as a basis for the development of a Strategy for Bulgaria's participation in the Fourth Industrial Revolution.
The Ministry of the Economy is coordinating the preparation of the strategy for the participation of Bulgaria in the Fourth Industrial Revolution (Industry 4.0). A working group comprised of stakeholders has been established to draft the strategy.
The concept takes into account Bulgaria's achievements and the new European initiatives in terms of industrial digitalisation. It aims to create the conditions for the modernisation, automation and competitive positioning of the Bulgarian economy in the medium to long term (2019–2027).
One of its priorities is promoting the use of AI technologies in the industry, particularly by SMEs.
One of the proposed key measures focuses on developing modern communication and data infrastructure, enabling the development and use of AI, and supporting the ICT sector to increase its capacity both for offering AI-based applications and solutions on the market, as well as for using AI to increase its own productivity and competitiveness.

Action Plan for Artificial Intelligence in Education and Science

The Ministry of Education and Science is working to prepare an action plan to support the use of AI in the fields of education and science. The plan is intended to become part of the overall aim of Bulgaria to actively support the development of specific digital skills and the use of innovative technologies.
A national scientific programme to support research in the field of AI, intelligent systems and large databases is also being prepared.

The Bulgarian Academy of Sciences prepared a national strategic framework for the development of AI in Bulgaria by 2030. The framework considers the social aspects of the technology, stating that the emergence of a new wave of digital technologies (machine learning, robotics, big data, autonomous systems) have significant consequences for the economy and labour markets, with the potential to cause major socio-economic changes. Healthcare, public services, smart agriculture, animal husbandry and environmental protection are AI implementation areas in Bulgaria, as they are considered to be consumer sectors of AI. The indicated technological areas where the country has good potential for the development of AI-based products and services are: service robotics; development (and testing) of software; human-machine interfaces in natural language, with priority for the Bulgarian language; security systems; AI systems for the management of industrial platforms: critical resources; infrastructures, etc.

3.5.2 Distributed ledger technologies

European Blockchain Services Infrastructure

In the updated eGovernance Strategy for the period 2019–2025, along with the updated roadmap for its implementation, measures were included for the development and use of innovative technologies in the public sector, including blockchain. Bulgaria is an active participant in the Policy Group of the European Blockchain Partnership. Bulgarian representatives from State institutions and businesses have been nominated for all EBP User groups as well as the technical group.

A project is currently ongoing under the Connecting Europe Facility (CEF Telecom) Blockchain (European Blockchain Services Infrastructure CEF 2020-1 call) and will run until the end of March 2023. The goal is to set up, deploy, and maintain the first Bulgarian EBSI node and develop three use cases - ESSI (European Self sovereign Identity), Notarisation, and Diplomas. The consortium, which includes five companies, aims to deliver to the citizens and the public administration a solid cross-border foundation for interoperable trans-European digital communication. The consortium has the support of the competent authorities and major public and science organisations such as the Bulgarian Research and Education Network (BREN) and the Faculty of Mathematics and Informatics of Sofia University. They could be both consumers of the proposed action's results and contributors in the overall process and future scale. The users, both single individuals and the public administration, will be encouraged to use the services by raising awareness, showcasing, and piloting the results, so as to illustrate the added value and usability.

3.5.3 Big data

eGovernance Strategy

In the updated eGovernance Strategy for the period 2019–2025, along with the updated roadmap for its implementation, measures were included for the development and use of innovative technologies in the public sector, with special emphasis on big data. Bulgaria has launched a process for policy development concerning data and data-driven governance and economy. The government plans to develop a dedicated National Data Strategy and regulatory framework for Data Policy implementation.

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

Discoverer Supercomputer

Bulgaria is a founding member of the EuroHPC Joint Undertaking. Bulgaria has supported the establishment of a petascale supercomputer – the Discoverer Supercomputer, located in Sofia, at the Sofia Tech Park. It was funded by a joint investment by EuroHPC JU and the Bulgarian government and inaugurated in October 2021. It is currently available for application.

National Competence Centres

The Ministry of Education and Science also supports the project 'National Competence Centres (NCC)' under EuroHPC JU. The project is co-funded by the European Commission and the Ministry of Education and Science. The Bulgarian project consortium consists of the Institute of Information and Communication Technologies to the Bulgarian Academy of Sciences (coordinator), and the Sofia University St. KlimentOhridski and the University for National and World Economics as partners.

3.5.7 High-speed broadband connectivity

National Broadband Infrastructure Plan

High-speed broad connectivity is at the heart of the updated National Broadband Infrastructure Plan for Next Generation Access 'Connected Bulgaria', adopted by the government in 2020.

4 Digital Public Administration Legislation

4 Digital Public Administration Legislation

4.1 Specific legislation on digital public administration

eGovernment Act

The eGovernment Act entered into force on 13 June 2008 and defined arrangements for the handling of electronic documents by administrative authorities, the provision of administrative services by electronic means and the circulation of electronic documents among various administrations. Its scope also extended to other entities that carry out public functions and to public service providers.
Under one of the act's main provisions, administrative bodies and persons charged with public functions, as well as organisations providing public services, cannot require citizens and organisations to produce or to prove data which have already been collected or created. Such data must be collected by the afore-mentioned bodies and persons from the initial data administrator. Another important provision stated that public bodies provide administrative services electronically.
The eGovernance Act, amended in June 2016, introduced a new State eGovernment Agency (SEGA) which integrated the Electronic Governance Directorate of the Ministry of Transport, Information Technologies and Communications and the Executive Agency for Electronic Communication Networks and Information Systems.
Some of the articles in the eGovernment Act have incorporated mandatory requirements for the preparation of terms of reference (ToR), listing the requirements that administrative authorities must include in the preparation of technical and functional assignments for public procurement, related to the development, upgrade or implementation of information systems or electronic services.
The eGovernment Act was amended in 2019 to reinforce the control functions of the State eGovernment Agency and to transpose Directive (EU) 2016/2102 of the European Parliament and of the Council (of 26 October 2016) on the accessibility of the websites and mobile applications of public sector bodies.
The amendments to the Electronic Government Act (eGovernment Act) gave additional powers to the Chairman of the State Agency for eGovernment to create and maintain a Portal for developers, a national repository, and a system for controlling the versions of the programme source code and the technical documentation of the information systems of the administrative authorities.
Another significant addendum is the regulation on the solutions for electronic identification (eID) and the procedure for their acknowledgement, as well as the establishment and support of an electronic authentication information system, in order to guarantee the validity of the exchanged electronic documents and statements.
In February 2022, through amendments to the law, all powers exercised by the Chairman of the State eGovernment Agency in the field of eGovernment, as well as the powers in the field of information technologies and information society, are assigned to the Minister of eGovernment.

4.2 Interoperability

eGovernment Act

The eGovernment Act and its existing regulatory framework set the requirements for the provision of internal electronic administrative services and the exchange of electronic documents among administrative authorities under the conditions of interoperability, as well as the requirement of uniform standards and rules and semantic interoperability. These requirements for the provision of internal electronic administrative services also apply to public service providers and to public service organisations, unless otherwise provided by law. The Chair of the SEGA shall ensure the integration of the information

systems of the administrative bodies with those of the Member States of the European Union, so as to enable the provision of cross-border electronic administrative services.
According to the provisions of the latest amendment to the Electronic Governance Act, these functions are taken over by the Minister of eGovernment.

4.3 Key enablers

4.3.1 Access to public information

Access to Public Information Act

The Access to Public Information Act, in force since 2000, regulates public relations concerning the right of access to public information, as well as the reuse of public sector information.
The law was amended in 2007 with the transposition of Directive 2003/98/EC on the re-use of public sector information and in 2016 with the transposition of Directive 2013/37/EC, amending Directive 2003/98/EC on the re-use of public sector information.
The law establishes standard terms and restrictions on the provision of information from the public sector for reuse, as well as administrative penalties.
The law gives all citizens or legal entities the right to access information held by government institutions, irrespective of the way of storage. Access is provided through the Public Information Access Platform. The law regulates transparency in the work of the administration, introduces the obligation to offer information reuse, as well as proactive, scheduled annual information publishing in an open format of all data and resources, maintained on the free-access Open Data Portal.
A draft amendment to the Access to Public Information Act was prepared on March 2022. The proposed draft implements into Bulgarian law the Directive of the European Parliament and of the Council on open data and the re-use of public sector information adopted and updated in 2019.
The aim of the proposed bill is to increase the transparency of public institutions and to enable analyses, forecasts and applications. It is envisaged that all requests for public information will also be published on the platform for access to public information for the purpose of centralised access to information.
For greater accountability and monitoring of progress in the field of open data, public sector bodies will provide the Ministry of eGovernment with the necessary information on an annual basis by electronic means.

Personal Data Protection Act

The Bulgarian Personal Data Protection Act (PDPA) was amended on 21 February 2019. The amended PDPA entered into force on 1 March 2019.
The main purpose of the amendments to the PDPA is to ensure the effective implementation of the European Union's new legal framework on data protection, namely Regulation 2016/679/EU of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, also known as GDPR.
A major change is the introduction of the principle of accountability and the upgrading of the requirements for business, public authorities, and any person who processes personal data. Accountability requires an active action on the part of the controllers to comply with the principles and rules for the processing of personal data at all stages of their activities and to demonstrate compliance with these rules to the supervisory authority.
The scope of the term personal data is expanding: a person's digital identity (social networking, e-mail, location) and traffic (including GPS coordinates, IP address) are already accepted as personal data.
Particular attention is paid to special (sensitive) categories of personal data - health and mental status, genetic data, beliefs, ideas, racial and ethnic origin, etc. Under certain conditions, the appointment of a Data Protection Officer (DPO) is required.

The rights of data subjects have been expanded, including the right to be forgotten upon expiration, withdrawn consent, accomplished primary purpose for which they were collected, etc. In addition, the transparency of the processing and the associated obligation to provide brief and comprehensible information to the data subjects that are being processed should also be considered.

4.3.2 eID and Trust Services

Decision No. 364 of August 2021

In August 2021, Decision No. 634 of the Council of Ministers was adopted, designating the State e-Government Agency (SEGA) as the competent authority to notify electronic identification schemes in accordance with Article 9 of Regulation (EU) 910/2014. The same Council of Ministers Decree also states that providers of electronic identification services, whose services are listed by the Communications Regulation Commission in the national trusted list as trust services, may request the Chairman of the SEGA to notify an electronic identification scheme, provided that it complies with the requirements of Articles 7-9 of Regulation (EU) 910/2014. The notification takes place after verification by the SEGA and recognition of the electronic identification scheme by decision of the Council of Ministers. The inspection is carried out in accordance with a procedure laid down in the Methodology approved by the Chairman of the SEGA.
In order to ensure eID through mobile devices, the new Ministry of eGovernment has started the development of a mobile app for eID and e-signing – BGID. BGID will solve the existing problem stemming from the lack of widely spread, accessible, secure, reliable, easy-to-use and free-of-charge means of electronic identification, conveniently available through a mobile device. The application will be available for both Android and IOS and is scheduled to be ready by the summer of 2022.

Electronic Document and Electronic Trust Services Act

This act regulated the electronic document and the electronic trust services.
Bulgaria amended the Law on Electronic Document and Electronic Signature in 2017 to:

- Create the conditions for a comprehensive cross-border and inter-sector framework for secure, reliable, and easy to use electronic transactions in the internal market;
- Create the conditions to develop digital infrastructure to improve the quality of public services, which would facilitate cross-border access to businesses and citizens within the EU and from other leading countries in the field of eGovernment;
- Ensure a fruitful European collaboration promoting innovation and the exchange of best practices as to the implementation of cross-border services, and synchronisation with European initiatives and programmes relating to eGovernment; and
- Build trust in the online environment, which is a key factor for economic and social development. A lack of confidence in the online environment discourages citizens and public authorities from carrying out electronic transactions and electronic service delivery.

The amendments to the Law on Electronic Document and Electronic Signature aimed to ensure that national legislation relating to the provision of electronic certification services complied with European legislation and in particular Regulation (EC) 910/2014 of the European Parliament and the Council of 23 July 2014 on the electronic identification and trust services for electronic transactions in the internal market, repealing Directive 1999/93/EC (Commission Regulation 910/2014/EU). In view of the direct applicability of the regulation, it provided for the repeal of provisions relating to elements of the system that are specifically regulated by the act of the European Union.
With the entry into force of the new amendment, a qualified electronic signature has the legal effect of a handwritten signature, while simple and advanced electronic signatures may be recognised as handwritten signatures.

Electronic Identification Act

A new Electronic Identification Act was adopted in May 2016 and came into force on 21 November 2016. In addition, amendments to the law on national identification documents were introduced. This was a key step for the accelerated introduction of eGovernment, as it defines a unified scheme for electronic identification of citizens and businesses.

eSignature in the eGovernment Act

Article 31, Section II of the eGovernment Act regulates the use of the electronic signature for eGovernment application. The Electronic Document and Electronic Trust Services Act regulated the electronic document and the electronic trust services by defining an electronic signature in the meaning of Article 3(10) of Regulation (EC) 910/2014: an enhanced electronic signature is an electronic signature within the meaning of Article 3(11) of Regulation (EC) 910/2014; a qualified electronic signature is an electronic signature within the meaning of Article 3(12) of the same Regulation. In particular, the rules to obtain, use, renew and revoke electronic signature certificates within the administrations are settled in the Ordinance on Electronic Signature Certificates in Administrations.

4.3.3 Security aspects

Cybersecurity Act

The Cybersecurity Act, published in the Bulgarian State Gazette No. 94 of 12 November 2018, was adopted in accordance with the commitments of the Republic of Bulgaria as a Member State of the European Union, which by 09 May 2018 had to introduce provisions into its national legislation and establish an organisation for the implementation of Directive (EU) 2016/1148 of the European Parliament and of the Council of 6 July 2016 concerning measures for a high common level of security of network and information systems across the Union (OJ, L 194 of 19 July 2016).

Ordinance on Minimum Requirements for Network and Information Security

In 2019, a new Ordinance on Minimum Requirements for Network and Information Security entered into force. It repealed the existing Ordinance on General Requirements for Network and Information Security. Its adoption enhances the regulatory framework in the field of network and information security in accordance with the Cybersecurity Act.
The ordinance defines the network and information security principles and goals. Requirements have been set for organisational measures for the protection of networks and information systems, as well as the related information covered by the Cybersecurity Act.
The Ordinance also recommends proceedings, establishes rules for the performance of compliance checks, defines the procedure for keeping, storing and accessing a Register of Essential Services. Standardised forms for incident notifications and a form for aggregated incident statistics pursuant to the Cybersecurity Act are introduced and the taxonomy and prioritisation in this area are harmonised.
Following the ordinance, three key cybersecurity projects were initiated in 2019.
The Project on Building Components of the National Cyber Security System concerned the establishment, among others, of a National Cybersecurity Coordination and Organizational Network, a National Cybersituation Centre, a National Cybercrime Centre, a National Computer Security Incident Response Team, and the upgrade of the Centre for Monitoring and Response to Incidents with Significant Impact on Communication and Information Systems of Strategic Objects and Activities Important for National Security at the State Agency for National Security (SANS).
The Project on Capacity Building and Services Enhancement of CERT Bulgaria (CBSEC-BG) included activities such as the setup of a Centre for National and International Cyber Exercises, the creation of a Malware Analysis Laboratory, and the setup of a Forensic Analysis Laboratory.

The FORESIGHT project aims to develop a federated cyber-range solution to enhance the preparedness of cybersecurity professionals at all levels and advance their skills towards preventing, detecting, reacting and mitigating sophisticated cyberattacks.

Law on the Protection of Personal Data

Adopted in January 2002 and last amended in May 2018 due to the GDPR, the Law on the Protection of Personal Data was modelled on Directive 95/46/EC on the protection of natural persons with regard to the processing of personal data and on the free movement of such data. It applied to the protection of individuals with regard to the processing of personal data, granting them the right to access and correct information about them held by public and private bodies. It defined lawful grounds for the collection, storage and processing of individual personal data.
The implementation of the law is monitored by the Commission for Personal Data Protection, an independent supervisory authority.

4.3.4 Interconnection of base registers

Central Component

In Bulgaria, all primary registers are created and maintained on grounds stipulated by law. Pursuant to the Ordinance on the General Requirements for Information Systems, Registers and Electronic Administrative Services adopted in 2017, access to registers can be done directly, or through a central component that ensures compliance with the interoperability and data exchange requirements, and that meets the requirements, determined by the Chair of the State eGovernment Agency. The central component, including the rights to access resources through it, is managed by the Chair of the State eGovernment Agency. With the amendments to the Law on eGovernment, adopted in February 2022, these powers are exercised by the Minister of eGovernment.

Commercial Register and Register of Non-Profit Legal Entities Act

The Commercial Register and Register of Non-Profit Legal Entities Act regulates the registration, keeping, storage and access to the Commercial Register and Register of Non-Profit Legal Entities, as well as the status of entries, deletions and announcements therein. The act also identifies the data owner as well as the ways to ensure security, interoperability and free access to data. The Commercial Register and Register of Non-Profit Legal Entities register is a unified electronic database containing the circumstances and acts disclosed by law concerning companies and branches of foreign companies, non-profit legal entities and the branches of foreign non-profit legal entities.

Cadastre and Property Register Act

The Cadastre and Property Register Act provides a definition of how cadastre and property are understood in the Bulgarian context, and regulates the organisation, financing, development, maintenance and use of the registers. Additionally, the act recognises and defines the difference between the Cadastre and the Land Register: the Cadastre is the set of basic data on the location, boundaries and dimensions of real estate in Bulgaria, while the Land Register consists of the batches of real estate, which allow for the establishing, transferring, amending or terminating of any real rights on real estate.

Civil Register Act

The Civil Register Act regulates and defines the purposes of civil registration. It contains reference data indicating the subject of the entries, as well as the events that led to the entry in the civil registration. The main events in this case are birth, marriage, and death. In addition, the most important basic data entered in the civil register refer to the name, date and place of birth, gender, citizenship as well as the unified citizen number that is provided to Bulgarians and residents.

Register BULSTAT

BULSTAT is the Unified Register for Identification of Economic and Other Subjects. The Law on the BULSTAT Register of 27 April 2005, and the ensuing adoption of a government strategy for the actual establishment of a central register of legal entities, and of an electronic register of Bulgaria were aimed to unify the registration of businesses with the Register Agency under the Ministry of Justice. This was done to turn business registration from a court procedure into a purely administrative one, introducing a single BULSTAT number for tax and social security purposes.

4.3.5 eProcurement

Public Procurement Act

In April 2016, a new Public Procurement Act entered into force in Bulgaria. The law contained regulations covering the different sub-phases of eProcurement, such as: eNotification, eTendering, eAuctions and the Dynamic Purchasing System.
It fully complies with Directive 2014/24/EC of the European Parliament and the Council on Public Procurement.
From 1 November 2019, the provisions foresee the mandatory use of the National Electronic Platform (CAIS EOP) from the opening of the procedures to the receipt and opening of the electronic applications for participation and tenders, as well as for the electronic communication in the course of the procurement procedure. Before that date, trainings, testing and registration of users in the platform were carried out in order to smoothly change over to eProcurement.
The latest amendment of the Public Procurement Act entered into force in 2020 and were published in the State Gazette No. 107 of 18 December 2020.
The implementation of the platform took place in two stages. After being completed with all functionalities in 2020, relevant stakeholders were mandated to use the National Electronic Platform since 1 January 2021.

eInvoicing Legislation

Amendments to the Public Procurement Act also concern electronic invoices. In the case of payments under public procurement contracts, contracting authorities are obliged to accept and process electronic invoices, provided their content meets the requirements of the Value Added Tax Act. Invoices must comply with the European electronic invoicing standard approved by the Commission Implementing Decision (EU) 2017/1870 of 16 October 2017 on the publication of the reference of the European standard on electronic invoicing and the list of its syntaxes pursuant to Directive 2014/55/EU of the European Parliament and of the Council or an equivalent standard with which it is implemented.

4.4 Domain-specific legislation

eCommerce Act

The eCommerce Act was enacted in Parliament in December 2006 to implement the EU Directive on electronic commerce (2000/31/EC). It regulated the obligations of service providers with regard to contracts by means of eDevices, and stipulated the rules limiting the service providers' responsibilities as to the provision of access and transfer of information services. It introduced a definition of spam mail, as well as the development of a specialised register of email addresses of legal entities who do not wish to receive such messages.
In February 2019, the Bulgarian government amended the act allowing the user of the information society service to receive clear and detailed information in accordance with Article 13 of Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of individuals with regard to the processing of personal

data and on the free movement of such data and repealing Directive 95/46/EC (General Data Protection Regulation).
In November 2020, additional amendments expanded the range of information society services included in the act. Information society services are also intermediary online services within the meaning of Regulation (EU) 2019/1150 of the European Parliament and of the Council of 20 June 2019 on promoting justice and transparency for business users of online intermediary services (OJ L 186 / 57 of 11 July 2019), hereinafter Regulation (EU) 2019/1150.

4.5 Emerging technologies

4.5.1 Artificial Intelligence (AI)

No legislation has been adopted in this field to date.

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

No legislation has been adopted in this field to date.

4.5.5 Internet of Things (IoT)

No legislation has been adopted in this field to date.

4.5.6 High-performance computing

No legislation has been adopted in this field to date.

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 Bulgaria'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

Ministry of eGovernment

By a Decision of the National Assembly of 13 December 2021, a new structure of the Council of Ministers of the Republic of Bulgaria was adopted, which also includes the Minister of eGovernment. The decision also foresees the establishment of the Ministry of eGovernment.
With the subsequent amendments to the Law on eGovernment (in force since February 2022), the State eGovernment Agency for Electronic Government (SEGA) is abolished, and the Information Technology Directorate is transferred from the Ministry of Transport and Communications to the newly established Ministry of Electronic Government.
The Ministry of eGovernment takes over the powers and functions of the Chairman of the State eGovernment Agency and incorporates the Information Technology Directorate within the Ministry of Transport and Communications. The powers under the Cybersecurity Act are also transferred to the Minister of eGovernment.
Among the main priorities of the new Ministry are the electronic identification, interoperability, digitalisation of registries, as well as increasing the quality of eServices for citizens and businesses.

Council for eGovernment

Until 2016, the Council for eGovernment assisted Ministers in the implementation of eGovernment policy, coordinated the implementation of draft sectorial eGovernment strategies and/or programmes in the context of the overall eGovernment strategy, and coordinated programme budgets and proposals for updating the overall eGovernment development strategy.
A new Electronic Governance Council, an advisory body to the SEGA, was formed in 2017, and changes were made to its functions and composition.
The Government approved a Decree of the Council of Ministers establishing a new eGovernment Council.
The Decree regulates the composition and organization of the activities of the eGovernment Council, a body of the Council of Ministers for overall coordination of the implementation of the eGovernment policy. It aligns the Council with the current structure of the Council of Ministers.
The Council is chaired by the Minister of e-Government and its members are all ministers in accordance with the decision of the National Assembly of 13 December 2021, establishing the structure of the Council of Ministers.
A Permanent Working Group is set up within the Council and provides for the possibility of setting up temporary working groups to achieve specific objectives and/or results.
The decree ensures the establishment and operation of an effective coordination mechanism for the implementation of the eGovernment policy, which allows the views of all stakeholders to be taken into account and which will lead to better quality solutions for the benefit of the whole society.

Business Council

A Business Council consists of representatives of organisations from the ICT sector and assists the eGovernment Council (eGovernment) in implementing eGovernment policies.

Ministry of Innovation and Growth

A Decision of the National Assembly of 13 December 2021 on the adoption of a structure of the Council of Ministers of the Republic of Bulgaria established the Ministry of Innovation and Growth.
The Minister of Innovation and Growth develops, organises, coordinates and supervises the implementation of the State policy in the field of innovation, technological and economic development and growth of the Republic of Bulgaria.

Council for Administrative Reform

The Council for Administrative Reform coordinates the government policy for the general management of the State administration.

Cybersecurity Council

Following the provision laid down in the Cybersecurity Act, a Cybersecurity Council was established with advisory, coordination and control functions on the development and implementation of cybersecurity policies within the Council of Ministers. For the functioning of the Cybersecurity Council, a Decree of the Council of Ministers was adopted, regulating its organisation and activities.
The Cybersecurity Council assists the government in performing its cybersecurity organisation, management and control tasks, which include network and information security, cybercrime and cyberdefence.
The Council includes the Ministers for Interior, Defence, Foreign Affairs, Finance, Transport, Health, Environment, Energy, the Chief of Defence, the Secretary General of the Ministry of Interior, the President of the State Agency for National Security (SANS), the Chair of the State Intelligence Agency (SIA), the Chair of the State eGovernment Agency, the Secretary of the Cybersecurity Council within the Council of Ministers, and a representative of the President.
The Head of State, the Prime Minister and the Parliament Chair may participate *in propria persona* in the Cybersecurity Council. In certain cases, chairs of standing committees of the National Assembly, members of Parliament, heads of institutions and organisations may also participate.
The above-mentioned composition on one hand guarantees the necessary involvement at political level and, on the other, creates the right conditions for the Council to operate effectively.
The Cybersecurity Council holds regular meetings at least once a year, with the option of additional ad-hoc meetings. Representatives of various State bodies and of professional and civic organisations, as well as experts, may be invited to attend the Council meetings. Pursuant the amendments to the Electronic Governance Act from February 2022, the Minister of eGovernment will be Chairman of the Cybersecurity Council.

Inter-Institutional Spatial Data Council

The Geospatial Data Act regulates the structure and tasks of the Inter-Institutional Spatial Data Council. The Council includes members, appointed by executive authorities, who are primary spatial data controllers. According to the amendments to the Electronic Governance Act, published in cash 15/2022 of the State Gazette, in force since 22 February 2022, the Minister of Electronic Government or an authorized official is the Chair of the Council, and the Deputy Chairs are the Deputy Minister for the Environment and Waters and the Deputy Minister for Regional Development and Public Works, or their duly authorised officials. The functions and activities of the Inter-Institutional Spatial Data Council (ISDC) are regulated by the rules of procedure, structure and organisation of the ISDC. Information about the ISDC is also published on the Council of Ministers Advisory Councils portal. The Council is supported by an expert working group and other relevant working subgroups.

National Computer Security Incidents Response Team

The National Computer Security Incidents Response Team (CERT)'s mission is to provide information, support and assistance to its constituencies in order to reduce the risks of computer security incidents as well as to respond to such incidents at the time of occurrence. The team maintains a database that offers information on how Bulgarian citizens and businesses can make their IT environment more secure.

Institute of Public Administration

The Bulgarian Institute of Public Administration was established in 2000 under the Civil Servant Act. The Institute has the status of an executive agency under the Council of Ministers of the Republic of Bulgaria and is the leading institution for the training of civil servants, including in the field of eGovernment, information and communication technologies and cybersecurity.

Commission for Personal Data Protection

The Commission for Personal Data Protection is an independent State body responsible for supervising the observance of the Law for Protection of Personal Data and protecting individuals with regard to the processing of their personal data, while also providing access to these data.

Big Data for Smart Society Institute

A Big Data for Smart Society Institute (GATE) has been established, which the State eGovernment Agency (SEGA) is a partner of. For a year, the Institute has been working on a pilot project for the creation of digital twins of Lozenets district in the municipality of Sofia. The GATE's Digital Twin Lab is designed to create and demonstrate the so-called digital twins of industrial/business processes and products. The laboratory includes an intelligent platform for interdisciplinary collaboration in the development of new tools, applications and technologies for automation, production, customisation and management in the industry.

The laboratory supports research activities for digital modelling and application of digital twins, applicable to various business scenarios such as customer management, production process management, decision support. It will also actively support the development of 'Cities of the Future' and 'Smart Industry'.

National Centre for High-Performance and Distributed Computing

The Ministry of Education and Science also continues to support the development of the National Centre for High-performance and Distributed Computing under the National Research Infrastructure Roadmap. It receives annual funding for development and operational costs. The Centre integrates several systems – the Avitohol Supercomputer and the High-performance grid cluster of the Institute of Information and Communication Technologies to the Bulgarian Academy of Sciences, the SU-GRID and PhysOn HPC clusters of the Sofia University St. KlimentOhridski and the LinBladeTU cluster of Technical University – Sofia. The systems are openly accessible for researchers and other public and private users. Many trainings are organised by the Centre, including for university students and users.

5.2 Subnational (federal, regional and local)

Regions and Municipalities

Regions and municipalities are involved in the implementation of various eGovernment activities of local interest. More specifically, they conduct activities related to the delivery of electronic services through the horizontal e-government systems. These include eDelivery, ePayment, and eForms for requesting eServices. The administrations

have the opportunity to join the single model for requesting, paying for and providing electronic administrative services, which is now being managed by the Ministry of eGovernment.
Local eGovernment developments are coordinated by municipalities, which are the local self-government bodies in Bulgaria. The National Association of Municipalities in the Republic of Bulgaria is the organisation that represents local authorities nationally.

Local Office Coordination

Coordination and sharing activities between base registers are concluded both at central level and decentralised levels.
For some registers, data are gathered through local offices and forwarded to national registers, as is the case for the Civil Register, where data are gathered and administered through local municipal offices.

Commission for Personal Data Protection

The Commission for Personal Data Protection also oversees the compliance with the Law for Protection of Personal Data by the local self-government authorities.

6 Digital Public Administration Infrastructure

6 Digital Public Administration Infrastructure

6.1 Portals

6.1.1 National Portals

Open Data Portal

Since the beginning of 2019, administrations have been publishing their datasets on the new Open Data Portal. The portal is a single, central, public web-based information system that provides for the publication and management of re-usable information in an open, machine-readable format along with the relevant metadata. Publication of public sector information in an open machine-readable format is an obligation for public sector organisations. The portal publishes data from national, regional and municipal levels. Citizens too have the opportunity to publish information.
The Open Data Portal has been developed on a PHP platform with the goal of improving processes related to the provision, access and reuse of public sector information financed by the Good Governance Operational Programme.

Public Consultations Portal

The Council of Ministers launched an internet portal for national, regional and local public consultations. It aims at informing citizens on government activities while encouraging them to take part in the shaping of such policies. In addition, it provides Bulgarians with the opportunity to publish their comments on government strategies or laws.

Public Information Access Platform

In 2019, the new online platform for accessing publicly available information was launched, enabling citizens and legal entities to easily obtain the public information they require. It is a unified, centralised, public web-based information system that provides the entire process of filing and reviewing an application for access to information online, referencing jurisdiction and, if necessary, providing a decision and publishing relevant information from the persons as required under the Access to Public Information Act, subject to the protection of the applicants' personal data under the Personal Data Protection Act.

Public Procurement Portal

The Public Procurement Portal (PPP) provides access to information on different aspects of public procurement. The information is structured in specific thematic areas and geared to the specific interests of major user groups. The information is updated daily. The PPP presents the organisation and activities of the Public Procurement Agency (PPA), the legal framework and the practice in the field, as well as useful references to other internet resources. The aim is to achieve greater awareness, publicity and transparency on public procurement issues, as well as appropriate methodological assistance to those involved in the process. The portal is public, and the access is free of charge. Both the Bulgarian and the English versions of the portal are supported.
The Public Procurement Portal provides access to:

- The Public Procurement Register;
- Methodological guidelines for the implementation of the PPL;
- Samples of documents that contracting authorities use when awarding public contracts;
- A list of contracting authorities;
- A list of economic operators registered as contractors;
- A list of economic operators who are unsuitable participants;
- Results of public procurement monitoring;

- Results of controls exercised by the PPA; and
- The monthly bulletin for the public procurement market in Bulgaria.

Portal for Developers

The portal provides and manages access to resources for the development of eGovernment software systems, information and communication technologies and the implementation of electronic services, which enable the reuse of already existing software codes and components and/or the accumulated knowledge in new eGovernment software systems development. The portal is intended for administrations and software systems developers.

6.1.2 Subnational portals

Single Government eServices Portal

The Single Government eServices Portal constitutes an entry point for the provision of services, offering a secure and convenient channel for accessing and communicating with consumers (citizens and businesses) of electronic administrative services. On the portal, users can identify themselves, receive information about services, and send applications for eServices through a specialised user interface.

Local Municipalities Portals

Local authorities (municipalities) build and maintain their own portals for the provision of information and services (i.e. the Sofia Municipality Portal).
Administrations in Bulgaria have access to a free service for creating federated portals through the Single Government eServices Portal. This service is a cloud solution for building sites according to a pre-established template within a single infrastructure. The templates for the federated portals allow partial personalisation of the site outlook, while retaining the same structure, which facilitates the end user and creates a single visual online identity of State institutions. The gateways in place shall comply with the existing standard accessibility standards described in Directive (EU) 2016/2102 of the European Parliament and of the Council of 26 October 2016 on the accessibility of the websites and mobile applications of public sector bodies.

6.2 Networks

Single Electronic Communications Network

The government has established and maintains a Single Electronic Communications Network since 2011, which allows for effective reduction of the cost of central and local executive authorities for telecommunications services and operational costs. This leads to economy of scale for infrastructure development, maintenance and operation.
The single communication and information infrastructure enables the country to: introduce eGovernment; apply video surveillance in public places, intersections, important buildings and schools; and provide eLearning, eAgriculture, eCommerce, eHealth, eTourism and eInclusion to disadvantaged people.
At present the network covers all 28 District centres and more than 200 communities, encompassing over 1 000 access points. It is the main communications infrastructure

for the needs of the State Hybrid Private Cloud and for the intranet networks for the State administration.

6.3 Data Exchange

Registry Information Exchange System

Following Decision No. 338 of 23 June 2017, the Council of Ministers took measures to reduce the administrative burden on citizens and businesses by removing the requirement to submit certain official documentary evidence in paper form. In order to issue certificates, administrations make queries from registers, and the data is retrieved by the administrations electronically. The provision of these services is achieved via the Register Information Exchange System (RegiX). It is an environment for automated interconnections between registers. With RegiX, authorised information users can retrieve data automatically from basic registers such as the National Population Database, the BULSTAT Register, the Property Register, the Commercial Register. The environment was managed by the SEGA, and, since February 2022 – by the Minister of eGovernment.
In October 2020, RegiX was upgraded. The upgrade introduced a new functionality consisting of the verification of the extracted information of each administration connected using electronic seal. Furthermore, RegiX provides its users with asynchronous retrieval of data in case the retrieval information is not in a machine-readable format, allowing connection of non-automated registers to the system.
The system creates a technical possibility for transforming the authentication administrative services in internal electronic administrative services.

Electronic Information System for Civil Registration and Administration

The Electronic Information System for Civil Registration and Administration (CRAS) is a system operated by the Directorate General for Citizens' Registration of the Ministry of Regional Development and Public Works that offers services related to citizens' personal IDs, data submission to statistical offices and generalised data related to the number of citizens residing in a given region, city or municipality.
The CRAS stores personal data on all Bulgarian citizens, which can be accessed by authorised government employees. Free public services include web access to electoral rolls for citizens who wish to check their electoral record or find their polling place, and generalised population data provided by agencies and national organisations.

eDelivery

The eDelivery System allows to send, receive and store electronic documents for/from public authorities, citizens and legal entities. eDelivery is an electronic equivalent to registered mail with a return receipt and is provided in accordance with Article 43 of Regulation (EC) 910/2014 and Article 26(2) and 26(4) of the EGA.
All administrative authorities can integrate the eDelivery module into their information systems or use it via a user interface.
With Decision No. 357 of 29 June 2017, the Council of Ministers obliged administrative authorities to bring their electronic document exchange systems in line with a uniform technical protocol approved by the Chair of the State eGovernment Agency. Since 1 November 2018, all administrations are obliged to exchange documents only by electronic means. The technical protocol for exchange of messages in the State administration (SEOS), now supported by the Ministry of eGovernment is also upgraded. The new version is based on AS4 protocol, which ensures interoperable and secure data exchange and is used by the European Commission in CEF eDelivery.

State Hybrid Private Cloud

Bulgaria is upgrading the State Hybrid Private Cloud and is gradually increasing its capacity. The State Hybrid Private Cloud aims to optimise the costs for implementing and maintaining the ICT resources of central and local government administrative structures, providing technologies that enable the optimal use of information and communication resources.
It also enables a rapid, secure, flexible and cost-effective way to provide resources in the form of cloud services for the needs of citizens and businesses, for in-house information and communication service processes, projects and systems and for maintaining and developing nationally significant electronic information arrays and databases.
Since the end of June 2021, the State Hybrid Private Cloud (SHPC) has been officially operating, providing ICT services, such as co-location, Infrastructure-as-a-Service, Platform-as-a-Service, as well as different resources for over than 50 centralised and administrative eGovernment systems. The upgrade of the SHPC is envisaged in terms of providing ICT services as Software-as-a Service (SaaS) and cloud services for public authorities, among which will be those based on Advanced Technologies, e.g. Document data extraction, Workflow tools, Business Intelligence & Analysis, Cloud Computing for public authorities.

6.4 eID and Trust Services

Biometric Passport

The first new generation of travel documents that contain biometric data began circulating in March 2010, enabling Bulgarian citizens to carry passports that meet all international requirements. This new-generation passport is a combined paper and electronic document which contains biometric information (e.g. facial recognition, fingerprint recognition, iris recognition) that can be used to authenticate a traveller's identity.

eSignature

Accredited trust service providers on the territory of the Republic of Bulgaria are listed in the Register of Certified Service Providers Issuing Certificates for Qualified Electronic Signature.
The electronic signature certificate enables several eServices, including: online payment of duties and taxes; customs and tax declarations filing; access to commercial registers; eCommerce; authorised access to confidential information; and electronic signing of documents/contracts. Furthermore, it reduces both costs and time for interacting with governmental bodies.
Most eGovernment services use the Uniform Citizen Number (UCN) for identifying their users. It is a unique ten-digit code for each Bulgarian citizen. eGovernment services typically extract the UCN from the user's certificate for electronic signature.

6.5 eProcurement

Public Procurement Register

Contracting authorities in Bulgaria are required to publish their tender notices in the State Gazette, as well as on the Public Procurement Register (PPR) kept by the PPA. Mandatory national eProcurement is provided by the PPR and the portal developed by the PPA. The PPR is an extensive electronic database which contains information about all procedures and allows for the collection, analysis and synthesis of information.

eSender Service

Tendering procedures above a certain threshold are published in the Official Journal of the European Union (OJ). The PPA provides the eSender service for contracting authorities free of charge, which enables the automatic forwarding of relevant tenders to the OJ. It offers a centralised electronic service through which tenders may be submitted on all publication platforms, thus eliminating the need to submit the same notice several times.

eInvoicing Platform

In Bulgaria, there is no common eInvoicing platform available for B2G eInvoicing in public procurement. Some solution providers from the private sector offer platforms for the exchange of eInvoices, such as eFaktura.bg and inv.bg. The former is offered by the largest eInvoicing provider BORICA–Bankservice AD. It is a joint-stock company owned by the Bulgarian National Bank and national commercial banks. It develops and maintains the basic IT infrastructure of the payment industry in Bulgaria.

6.6 ePayment

Electronic Payment Gateway

Since 2018, an electronic payment environment has been in place for electronic administrative service providers. It is accessible via the Electronic Payment Gateway. The electronic payment environment records electronic payments related to the provision of electronic administrative services, creates electronic payment documents and provides for the possibility of paying them in the mode chosen by consumers.
In 2021, the State eGovernment Agency expanded the functional capabilities of the Single Point of Entry to include electronic payments in the State and local administration. The integration was made possible with a centralised virtual POS terminal. These services can be used by all administrative structures, including municipalities. The centralised VPOS terminal allows for online payments, without applying any transaction fees or commissions.

6.7 Knowledge Management

Project Source Code Repository

Under the Electronic Governance Act, administrative authorities use a public repository for the development, upgrading or deployment of information systems or electronic services and a control system for the source code and technical documentation versions. The storage of projects – or parts thereof – designed for custom-made administration is hosted on GitHub. Access to the GitHub repository is ensured upon submission of an electronically signed application form the administrative authority. Since 2020 a new GitHub repository is available. The old repository stores a mirror copy of the contents of the new one.

VAT Public Bulletin

The VAT Public Bulletin provides information on VAT-registered companies in Bulgaria. It is updated once a month with data available in the archives of the tax divisions throughout the country.

GDPR in Your Pocket

The mobile application 'GDPR in your pocket' has been developed under the SMEDATA project. The purpose of this mobile application is to present the General Data Protection Regulation (GDPR) to citizens and small and medium-sized enterprises in an easy-to-

use and understandable way and to give them practical information and advice on their rights and obligations in the field of personal data protection, in accordance with the GDPR. The user interface, as well as significant portions of the content, are available in English, Italian and Bulgarian. The SMEDATA mobile app 'GDPR in your pocket' can be downloaded free of charge from the Google app store (for Android devices) and the Apple store (for iOS devices).

6.8 Cross-border platforms

eIDAS Node

For the purposes of cross-border electronic identification, an eIDAS node has been developed and deployed in a production environment in accordance with the requirements of Regulation (EC) 910/2014.
The technical specifications provided by the European Commission have been partially reused for its development (based on eIDAS-Node integration package version 2.1). At national level, the eIDAS node is completely integrated with the eAuthentication system. At present, Bulgarian authorities are working on the documentation for a public procurement procedure for upgrading the Bulgarian eIDAS node with the latest version provided by the European Commission – version 2.5.

Electronic Exchange of Social Security Information

The Electronic Exchange of Social Security Information (EESSI) is an IT system that helps social security institutions across the EU exchange information more quickly and securely, as required by EU rules on social security coordination. Since January 2020, the National Social Security Institute (NSSI) has effectively joined the EESSI. The NSSI has started to exchange data electronically with other social security institutions in Europe regarding all benefits within its competence.
The National Revenue Agency (NRA) is connected to the TESTA network, through which it has access to the three CSN (Central Service Node) environments of the European Commission, thereby electronically exchanging social security information between Bulgaria and the EU within the EESSI.

Secure Platform for the Electronic Exchange of Data

To exchange pension information with Germany, the National Social Security Institute (NSSI) uses a Secure Platform for the Electronic Exchange of Data (sPAD), provided by the Data Processing Centre of the DSRV (German pension insurance bodies). This web application is accessible through the European network TESTA. The NSSI has excess to the Pension Payment List and the List of Death Certificates via sPAD.

6.9 Base registries

RegiX

The Ordinance on the general requirements for information systems, registers and electronic administrative services provides the possibility to access the registers through a central component that ensures compliance with the requirements for interoperability and data exchange. There is such a central component in Bulgaria - RegiX.
RegiX is an infrastructure that enables the automated interconnections between multiple Bulgarian registers (currently 76), as well as information systems, in the form of machine-to-machine services. RegiX has been developed as part of the central eGovernment system. The environment for automated interconnections between registers represents a way to facilitate the interaction between administrations, with the goal of providing integrated administrative services. Therefore, administrative authorities that provide public services are encouraged not to require citizens or

organisations to transmit the data that the administration already has more than once. Instead, they must officially collect them from the primary administrator of the data. Notifications and requests for data are done electronically and automatically via RegiX, as an internal electronic administrative service.

6.10 Emerging Technologies

6.10.1 Artificial Intelligence (AI)

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

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

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

6.10.5 Internet of Things (IoT)

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

6.10.6 High-performance computing

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

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 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).

last update: July 2022

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 Kostadinka Karadzhova, Head of Analysis Department – Directorate "e-Governance Strategies and Policies", State eGovernment Agency.

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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