![European Commission logo]

Digital Public Administration factsheet 2023

Norway

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1 Interoperability State-of-Play

# 1 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 divided in three pillars. The EIF Monitoring Mechanism (MM) was built on these pillars to evaluate the level of implementation of the framework within the Member States. Whereas during the previous, the MM relied upon three scoreboards, the 2022 edition includes an additional scoreboard on cross-border interoperability, assessing the level of implementation of 35 Recommendations. The mechanism is based on a set of 91 Key Performance Indicators (KPIs) clustered within the four scoreboards (Principles, Layers, Conceptual model and Cross-border interoperability), outlined below.

Scoreboard 1 Interoperability Principles	Recommendation(s) n°	Scoreboard 2 Interoperability Layers	Recommendation(s) n°	Scoreboard 3 Conceptual Model	Recommendation(s) n°
Principle 1 - Subsidiarity and Proportionality	1	Interoperability Governance	20-24	Conceptual Model	34-35
Principle 2 - Openness	2-4	Integrated Public Service Governance	25-26	Internal information sources and services	36
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Scoreboard 4 Cross-border Interoperability

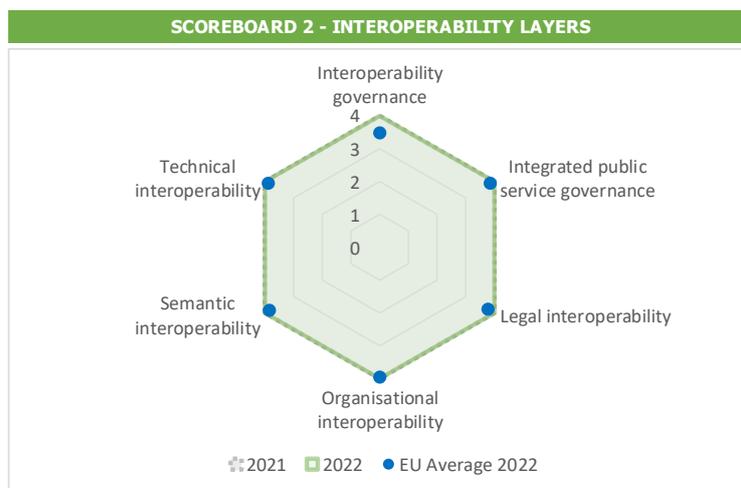Source: European Interoperability Framework Monitoring Mechanism 2022

Each scoreboard breaks down the results into thematic areas (i.e. principles). The thematic areas are evaluated on a scale from one to four, where one means a lower level of implementation and four means a higher level of implementation. The graphs below show the result of the EIF MM data collection exercise for Hungary in 2022, comparing it with the EU average as well as the performance of the country in 2021.

SCOREBOARD 1 - TWELVE PRINCIPLES
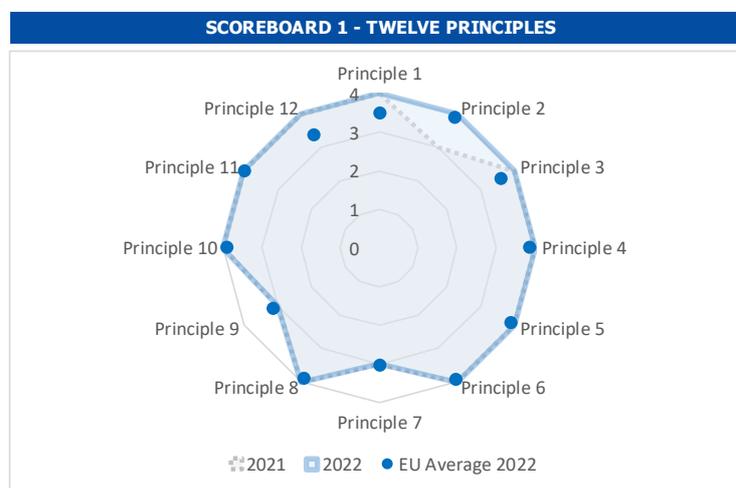
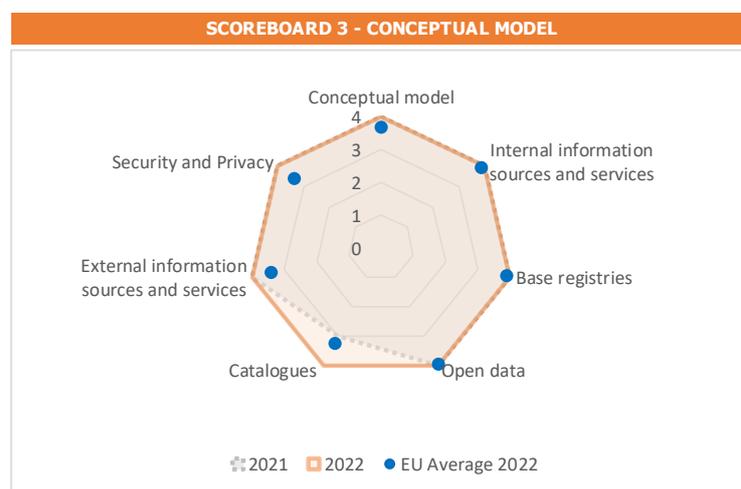Source: European Interoperability Framework Monitoring Mechanism 2022

Norway's results in Scoreboard 1 show an overall very good implementation of the EIF Principles. Regarding principle 2 (openness), we can see that the implementation of the recommendations has led to an increase in the score from 3 to 4 in 2022. Possible areas of improvements are concentrated in Principles 7 (Inclusion and accessibility) and 9 (Multilingualism) and for which the score of 3 shows an upper-medium performance in the implementation of corresponding recommendations. Indeed, the use of e-accessibility specifications to ensure that public services are accessible to all citizens, including persons with disabilities, the elderly and other disadvantaged groups (Principle 7 – Recommendation 14) and the implementation of information systems and IT architecture that caters for multiple languages based on the needs of the end user

in the design of European public services (Principle 9 – Recommendation 16) are partial and could be bettered to reach the maximum score of 4.

SCOREBOARD 2 - INTEROPERABILITY LAYERS

Source: European Interoperability Framework Monitoring Mechanism 2022

The Norwegian results for the implementation of interoperability layers assessed for Scoreboard 2 shows an overall very good performance with scores of 4 for all layers. Potential areas of improvement to enhance the country's implementation of the recommendations under Scoreboard 2 are in the area of interoperability governance; integrated public service governance, and organisational interoperability. More specifically, the overall score of 3 for Norway in Recommendation 22, stating that public administrations should use a structured, objective and transparent approach when choosing standards and specifications, could be improved. The same can be said for the overall score of 3 for Recommendation 29, stating that public administrations should clarify and formalise organisational relationships for establishing and operating European public services. However, it is important to note that while greater efforts could be focused on Recommendation 22 and 29, the lower score of 3 does not negatively impact the overall interoperability governance score for Norway.

SCOREBOARD 3 - CONCEPTUAL MODEL

Source: European Interoperability Framework Monitoring Mechanism 2022

Norway's scores assessing the Conceptual Model in Scoreboard 3 show a very good performance in the implementation of recommendations associated with all criteria. It is interesting to note that Norway has an above-EU average score of 4 for the implementation of recommendations associated with security and privacy and external information sources and services. As far as Catalogues is concerned, the implementation of the recommendations has led to a rise from a score of 3 to a score of 4, which is above the European average. However, it is possible to make a slight improvement by focusing on setting up a catalogue of public services, data and interoperability solutions, each with common models to describe them (Recommendation 44). It

should be added that a score of 3 for one of the KPIs in recommendation 44 has no negative impact on the recommendation's score and Norway's overall score for catalogues.
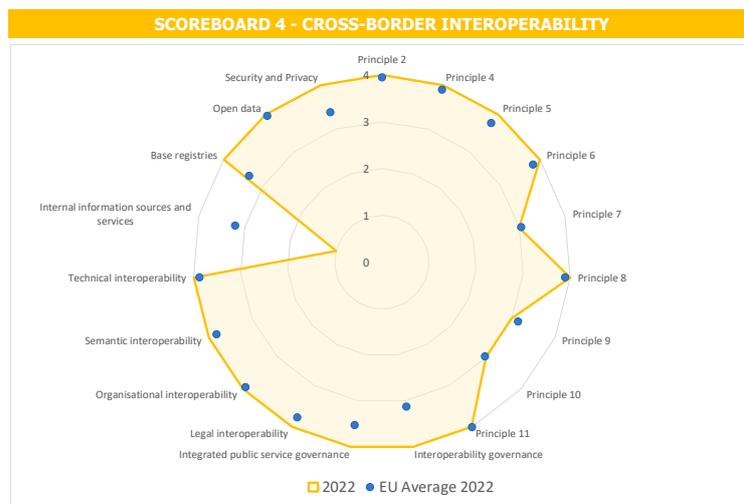
Source: European Interoperability Framework Monitoring Mechanism 2022

The results of Norway concerning Cross-border Interoperability in Scoreboard show a very good performance of the country in 16 indicators. However, Norway has still margin for improvement. For instance, efforts could focus on the development of a shared infrastructure of reusable services and information sources that can be used by all public administrations (i.e. Internal information sources and services – Recommendation 36) in order to match the EU average. It is also possible to improve by focusing on using information systems and technical architectures that cater for multilingualism when establishing a European public service. (Principle 9 - Multilingualism – Recommendation 16).

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

Curious about the state-of-play on digital public administrations in this country?

Please find here some relevant indicators and resources on this topic:
- Eurostat Information Society Indicators
- Digital Economy and Society Index (DESI)
- eGovernment Benchmark

2 Digital Public Administration Political Communications

2 Digital Public Administration Political Communications

2.1 Specific Political Communications on Digital Public Administration

Digital Agenda for Norway – ICT for a Simpler Everyday Life and Increased Productivity (Report. St. (2015-2016))

The Norwegian government adopted an information and communication technology (ICT) strategy, Digital Agenda for Norway, as set forth in the Digitalisation white paper Meld. St. 27 (2015-2016) in the parliamentary year 2015-2016. The Digital Agenda has two key objectives: ensuring a user-centric and efficient public administration and achieving value creation and inclusion with digital services.

The newly adopted strategy has five key priorities:
- A user centric focus;
- ICT should constitute a significant input factor for innovation and productivity;
- Strengthened digital competence and inclusion;
- An effective digitisation of the public sector; and
- Sound data protection and information security.

The effective use of ICT is essential to ensure continued economic growth and a high level of employment in Norway. Through the purposeful use of ICT, the policy aims to provide the public with a growing number of digital services. Digital self-service solutions will help improve service quality, availability and flexibility for users.

Advanced use of ICT in business and public sectors depends on a good infrastructure (broadband) and a sufficient knowledge of ICT within the population. It is important that technological solutions are accessible to everyone, including the visually and hearing impaired. In addition, to achieve the objectives of ICT policy, the research and development of ICT and advanced ICT skills needs to be strengthened.

One Digital Public Sector: Digital Strategy for the Public Sector 2019–2025

The Digital Strategy for the Public Sector, launched in June 2019, establishes the common goals and focus areas for digitalisation activities towards 2025. It supports digital transformation throughout the public sector. The strategy's main measures focus on a user-centric service development and more efficient and coordinated utilisation of common IT solutions. This is achieved by developing a common ecosystem for digital cooperation in the public sector. The strategy requires that cybersecurity be integrated into common IT solution services development, operation and management, in accordance with the objectives of the National Cyber Security Strategy for Norway. Therefore, the main goals for 2025 aim to:
- Achieve the digitalisation of the public sector in a transparent, inclusive and trustworthy way;
- Perform more tasks digitally as well as the delivery of services;
- Encourage citizens, businesses and voluntary organisations to communicate digitally with the public sector;
- Exploit the sharing and using of data to create user-friendly services and to promote value creation for businesses;
- Help local and central government agencies to develop their services based on a common digital ecosystem for cooperation; and
- Help local and central government agencies to gain from digitalisation in a systematic manner.

The Action Plan accompanying this strategy is coordinated by the Norwegian Digitalisation Agency.

Digital Throughout Life

In September 2021, the Ministry of Local government and Regional Development published a national strategy to improve digital participation and competence among the population. The goal of the strategy is to prevent digital exclusion and provide what the population needs to be able to use the digital tools and services society depends upon today. Everyone should be able to participate in society, in democratic processes and in social communities by using digital tools.

The strategy focuses on several challenges such as digital vulnerability, the digital divide and exclusion. The government aims are:

- To help prevent digital exclusion in all age groups;
- To facilitate free, quality-assured assistance services for citizens with little or no digital competence;
- To further develop the partnership with KS (Norwegian Association of Local and Regional Authorities) to facilitate the development of good, local guidance services throughout the country;
- To hold the business sector more accountable for including all citizens in the digital services they provide;
- To help ensure that, as a rule, publicly funded low-threshold services aimed at people with little or no digital competence are free;
- To ensure regular mapping of citizens' level of digital competence;
- To work together with public, private and voluntary providers on a campaign to encourage citizens who need to improve their digital competence to register for courses; and
- To consider whether one public agency should be assigned overarching responsibility for coordinating national efforts to improve the population's digital competence.

The strategy has some focus areas:

- Internet access (the digital foundation);
- Available ICT equipment;
- Basic digital skills;
- User friendly digital services;
- Digital judgement (ability to reflect and think critically); and
- Other measures (guidance, user input).

White Paper on an Innovative Public Sector (Report. St. 30 (2019/2020))

In July 2020, the Norwegian government presented the White Paper on Innovation in the Public Sector to the Norwegian Parliament (*Stortinget).* The document addresses the development in this field, the present situation, the need for change and the government policy to foster innovation in the public sector. To achieve this goal, the government has developed three principles to foster public sector innovation:

- Politicians and public authorities need to ensure freedom of action and provide incentives for innovation;
- Leaders must develop a culture of innovation and the ensuing competence, where people have the courage to think differently and learn from mistakes and successes; and
- Public agencies must seek new forms of collaboration.

With increased attention to the development of cross-cutting services, an innovation culture, digital leadership skills and new models for collaboration across sectors and levels of government, the paper aims to contribute in the long run to developing new business models in the public sector.

Digital Public Goods Alliance

The Digital Public Goods Alliance (DPGA) is a multi-stakeholder initiative of which Norway has been a very active member since 2018. The alliance brings together a diverse set of stakeholders who unite around a common vision, strategic goals, definition and standard for DPGs.

The DPGA is not a legal entity, but an initiative jointly supported by its current hosts, the Norwegian Agency for Development Cooperation (Norad), the UNDP and UNICEF, who ensure that the DPGA is adequately staffed and resourced. In June 2021, the Digital Public Goods Alliance (DPGA) launched its five-year flagship strategy, which not only guides the work of the DPGA itself, but also lays the foundation for collaboration with governments, industry, the UN, civil society, etc.

Strategy for Digital Transformation in the University and College Sector

As a consequence of the 2020 pandemic, the education system has been turned upside down, particularly the university and college systems. Therefore a restructuring exercise has been announced by the Minister of Research and Higher Education in September 2021. This strategy replaces the Digitisation Strategy for the University and College Sector 2017–2021.

Digital21 was initiated by the Norwegian Ministry of Trade and Industry as a result of recommendations in the industrial report, Meld. St. 27 (2016-2017) Industry - Greener, Smarter and More Innovative. Digital21 is a government-elected committee that gives advice and recommendations to authorities on how to facilitate business development and utilise new expertise, technology and research through digitalisation. The purpose is to create a strategy across industries and fields of expertise, where key actors support common goals and recommended measures.

The long-term goal of Digital21 is to support and accelerate digitalisation for businesses. To do so, Digital21 has identified six areas of significant importance:

- Emerging technologies;
- Research, development and innovation;
- Competence;
- Computer resources and infrastructure;
- Safety; and
- Public framework.

Digital21 has established expert groups in each of these six areas.

2.2 Interoperability

Digital Interoperability Framework

The Digital Interoperability Framework was first published in April 2018. It aims to help public enterprises define, develop and manage digital services, including cross-sector services, and to facilitate the exchange of data and services between public services.

The framework is based on the European Interoperability Framework, and covers organisational, judicial, semantic and technical aspects of interoperability.

The interoperability framework is also related to the Norwegian architecture principles. The principles were revised in 2019 and a new version was published in January 2020. Increased interoperability is one of the main considerations of the new version. The principles are mandatory for State-level public entities, while local and regional level public entities are strongly recommended to use the principles as well.

2.3 Key enablers

2.3.1 Open Data, Reusability and Access to Public Information

White Paper on 'Data as a Resource' (Report St. 22 (2020–2021))

In March 2021, the Norwegian government presented the White Paper on Data as a Resource – Data-driven Economy and Innovation. This white paper includes national principles for sharing and using data.

The purpose of the white paper is to present the government policy on how to use data as a resource to create value for the private and public sectors. The government wants the country to exploit the opportunities inherent in data for increased value creation, more new jobs across the country, and an efficient public sector. Better utilisation of data is important if Norway is to succeed in the transition to a more sustainable society and a greener economy.

The government's ambition is to increase data sharing within the business community and between the public and private sectors. Although data make up an ever-larger share of value creation in most Norwegian industries and sectors today, the business community must become even better at utilising its own data and to share data within established value chains. Increased digitalisation and better data utilization will be important if Norwegian businesses are to remain competitive nationally and internationally.

Public data is of value for businesses in that they can be used in new contexts, interconnected with different data and contribute to innovation, new services and products.

2.3.2 eID and Trust Services

`new` New Strategy for eID

The Ministry of Local Government and Regional Development has published a new Strategy for Electronic Identification (eID). The premise of the strategy is one person, one identity in Norway. The main goals for eID and trust services are laid out in the One Digital Public Sector strategy. It states that all citizens should have an eID that can be used for the services they need. All groups, including foreign nationals without a Norwegian national identity number, children and adolescents, should be able to obtain an eID at the level they need. Individuals who are unable to act digitally themselves, must have the opportunity to be represented by a proxy. Provisions must therefore be made for the use of digital authorisations and digital consent. There is also a need to facilitate the use of electronic employee IDs. Guidelines for the use of eID for employees in public administration has been subject to consultation.

2.3.3 Security Aspects

National Cybersecurity Strategy

On 30 January 2019, a new National Cybersecurity Strategy was released by the Ministry of Justice and Public Security and the Ministry of Defence. It is the fourth of its kind in the country and is intended to address issues such as the need to reinforce public-private, civilian-military and international cooperation. The primary target groups are authorities and companies in both public and private sectors, including municipalities. Moreover, the strategy lays the foundations for ensuring private individuals the necessary knowledge and understanding of risks in order to use technology in a safe and secure way.
The main goals are organised in five priority areas (preventive cybersecurity; cybersecurity in critical societal functions; competence; detect and handle cyberattacks; prevent and combat cybercrime) and sets a two-part list of measures: part one describes key measures that support the strategy and part two lists ten basic measures that both public and private companies are recommended to implement.

2.3.4 Interconnection of Base Registries

Once-Only Principle

The Once-Only principle has been adopted by the Norwegian public administration. The 2016 white paper, Digital Agenda for Norway, states that one of the main priorities of the government's ICT policy is that public administration entities must reuse information rather than ask users for duplicate information that they already have provided.

2.3.5 eProcurement

Programme for Digital Procurement

By establishing the Programme for Digital Procurement, Norway aims to streamline and improve public procurement by fully digitalising the procurement process. The programme will last until 2024 and the direct implementation costs are expected to be NOK 91 million.
It aims to provide great benefits for the business sector in the form of simpler processes, less handling of paper documents and increased reuse.
An all-digital procurement process streamlines and facilitates an important and resource-intensive process. Participation in public procurement competitions takes less time and becomes more attractive to businesses, especially small and medium-sized enterprises.
For public clients, the full digitalisation of the procurement process leads to resource savings and increased quality as well as greater transparency. The potential quantitative gains directly related to digitalisation have been estimated to be approximately NOK 3.6 billion in the investment period.

2.4 Domain-specific Political Communications

Transportation Sector Public Data Strategy

The purpose of the Transportation Sector Public Data Strategy is to support the increased use of open public data from the transportation sector.

Data analysis can help optimise processes, decisions, and forecasts of future events. At the same time, increased use of data can contribute to efficiency, innovation and business development. Data are the "fuel" in the digital economy and in the increasingly digitalised transport sector. The potential of increased use of open public data from the transport sector is considerable.

To support this trend, the availability of public data from State-owned enterprises needs to be extended.

2025 Geodata Strategy

Geographic information concerns location objects, events and conditions. The term is often abbreviated to location data or geodata.

The 2025 Geodata Strategy was launched by the Norwegian government on 1 November 2018 and aims at addressing the needs of sectoral agencies at various government levels, computer manufacturers, technology providers, entrepreneurs and cross-sector users. The Norwegian Mapping Authority is the national spatial data coordinator.

National Strategy for eHealth

eHealth is a prerequisite for solving the challenges of a fragmented health care system. The strategy is aimed at providing efficient, sustainable and paper-free health care services. The strategy covers the period 2017–2022, and it was updated in 2019. It builds on the ambitions of the White Paper 'One patient – One Record', including health personnel's simple and secure access to patient information, citizens' access to simple and secure digital services, and the availability of health data for quality improvement, health surveillance, management and research.

White Paper on Digital Transformation and Development Policy

The White Paper on Digital Transformation and Development Policy defines and gives direction to digitalisation in Norwegian development policy and cooperation. It aims to contribute to more efficient development cooperation and to increase the capacity of development cooperation between partners to make use of digital technologies.

Digitalisation Strategy for the Climate and Environmental Sector 2020–2024

The Digitalisation Strategy for the Climate and Environmental Sector 2020–2024 was launched in April 2020. Some of its main targets are increasing the availability of user-oriented environmental information and environmental data that are reliable, open and free-of-charge.

2.5 Innovative Technologies

2.5.1 Artificial Intelligence (AI)

National Strategy for Artificial Intelligence

On 14 January 2020, the National Strategy for Artificial Intelligence of Norway was launched. No specific time frame was applied as the government committed to progressively adjust it in line with technological and social developments. It states that Norway should take the lead in developing and using AI while respecting individual rights and freedoms.

The AI Strategy takes as a starting point the fact that Norway is well positioned for succeeding with AI. Indeed, Norway has:
- A high level of public trust in both business and public sectors;
- A digitally competent population and business sector;
- An excellent infrastructure and high-quality registry data that span over many decades;
- Well-developed e-Governance and public agencies that have come a long way with digitalisation and that have the capacity and expertise to experiment with new technologies; and

- Tripartite cooperation between employers, unions and government, which facilitates cooperation when restructuring is necessary.

The strategy goes on to highlight that:
- AI developed and used in Norway should be built on ethical principles, and respect human rights and democracy;
- Research, development and use of artificial intelligence (AI) in Norway should promote responsible and trustworthy AI;
- Development and use of AI in Norway should safeguard the integrity and privacy of the individual; and
- Cybersecurity should be built into the development, operation and administration of systems that use AI.

Supervisory authorities should make sure that AI systems in their areas of supervision are operated in accordance with the principles for responsible and trustworthy use of AI.

https://www.regjeringen.no/en/dokumenter/nasjonal-strategi-for-kunstig-intelligens/id2685594/The strategy outlines the importance of regulatory sandbox initiatives as tools in the Norwegian public administration. One example is the ongoing cooperation between the National Archival Service and the Norwegian Digitalisation Agency, where participants in the initiative are being challenged to find new and innovative ways of combining documentation management, freedom of information and personal data protection. Another example is the cooperation between the Data Protection Agency and the Norwegian Labour and Welfare Administration (NAV), which aims to stimulate innovation of ethical and responsible AI, with extra attention being paid to personal data protection. This latter initiative focusses on the specific use case of workers who need to take sick leave and helps the Labour and Welfare Administration identify people who need specific attention in a more targeted way.

Declaration on AI in the Nordic-Baltic Region

In May 2018, the Ministers responsible for digital development from Denmark, Estonia, Finland, the Faroe Islands, Iceland, Latvia, Lithuania, Norway, Sweden, and the Åland Islands released a Declaration on AI in the Nordic-Baltic Region. The Declaration aims to create synergies among the Nordic-Baltic countries on:
- Improving opportunities for skills development with the goal of enabling more authorities, companies and organisations to use AI;
- Enhancing access to data for AI to be used for better service to citizens and businesses in the region;
- Developing ethical and transparent guidelines, standards, principles and values to guide when and how AI applications should be used;
- The objective that infrastructure, hardware, software and data, all of which are central to the use of AI, are based on standards, enabling interoperability, privacy, security, trust, good usability, and portability;
- Ensuring that AI gets a prominent place in the European discussion and implementation of initiatives within the framework of the Digital Single Market;
- Avoiding unnecessary regulation in the area, which is under rapid development; and
- Utilising the structure of the Nordic Council of Ministers to facilitate collaboration in relevant policy areas.

2.5.2 Distributed Ledger Technologies

Distributed Truth

In 2018, a study (Distributed Truth) on the opportunities and challenges related to the use of blockchain technology was prepared for the Ministry of Local Government and Modernisation.

European Blockchain Partnership

In 2018, Norway signed the European Blockchain Partnership declaration, committing to cooperate with Member States on the establishment of a European Blockchain Services Infrastructure (EBSI).

Norwegian EBSI node

Up until 2022 the Norwegian Digitalisation Agency (Digdir) has been running a test node in the EBSI network.

In 2022, the University of Oslo (UiO Blockchain Lab) took over responsibility for the Norwegian EBSI node and complying to new requirements, including support for pilot, pre-production and production environments. The new pilot environment was established early in 2023. The other environments will be established with support of the Digital Europe Program, where the University of Oslo participates in the EB-SINE consortium together with Digdir.

Further European Collaboration

Several other Norwegian actors participate in Digital Europe Program consortia to develop applications on the EBSI infrastructure, including use cases for track&trace and business registries.

There are also several other Norwegian initiatives on blockchain where further European collaboration is expected. Examples are the Shareholder Register and the Central Bank Digital Currency.

Norway is per Pay 2023 still a member of the European Blockchain Partnership. There are ongoing discussions regarding participation in a planned EBSI EDIC.

2.5.3 Big data

Powered by Nature – Norway as a Data Centre Nation

The government wants Norway to be an attractive nation for data centres and other data-centric industries. In this regard, the Ministry of Trade and Industry published in February 2018 the strategy Powered by Nature – Norway as a Data Centre Nation.
As the future unfolds, data will become an increasingly important resource and input for the business community as well as for society in general. This represents a major economic opportunity for Norwegian businesses and society and will be a key to government policies and priorities going forward.

Norwegian Data Centre – Sustainable, Digital Powerhouses

The government wants Norway to exploit the opportunities that data present for increased value creation, more jobs throughout the country and an efficient public sector. In this regard, the Ministry of Local Government and Regional Development published the strategy Norwegian Data Centre – sustainable, digital powerhouses with the objective of highlighting how the country intends to become an attractive investment destination for data centres and other data-based industries. The strategy will also devise measures that can help boost growth in the data centre industry in the years to come, whilst also ensuring that this development is sustainable.

Other communications

In 2016, Vivento and Agenda Kaupang prepared the report Review and assessment of big data in public sector by assignment of the Ministry of Local Government and Modernisation.

2.5.4 Cloud computing

Cloud Computing Strategy for Norway

Launched in 2016 by the Ministry of Local Government and Modernisation, the Cloud Computing Strategy addresses several challenges that public sector enterprises face when they consider using cloud services. It also lists measures the Norwegian government should take to ensure a secure and proper use of cloud computing. The Ministry is currently working on a concept selection study for a national cloud, which it believes will be delivered before the summer of 2023.

2.5.5 Internet of Things (IoT)

White Paper on Our Common Digital Foundation (Report. St. 28 (2020–2021))

The white Paper on Our Common Digital Foundation describes of the future direction for several areas with particular need for a digital foundation. The Internet of Things is included.

2.5.6 High-Performance Computing

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

2.5.7 High-speed Broadband Connectivity

White Paper on Our Common Digital Foundation (Report. St. 28 (2020–2021))

In April 2021, the Norwegian government presented the White Paper on Our Common Digital Foundation to the Norwegian Parliament (Stortinget). The white paper describes the situation and future need for mobile, broadband and internet services as a foundation for the digital development in Norway. This includes common access to broadband and the further development and access to the 5G mobile network. The paper describes the future direction for several areas with particular need for a digital foundation. These includes cloud services and the Internet of Things.

Letter of Intent on the Development of 5G in the Nordic Region

In May 2018, Norway signed a Declaration of Intent on the Development of 5G in the Nordic Region within the framework of the Nordic Council of Ministers. In addition to accelerating the development of 5G, the declaration outlines the collective vision for the Nordic region becoming the first interconnected 5G region in the world and identifies areas in which Nordic cooperation needs to be strengthened. The document also acknowledges that the deployment of 5G will require substantial investments as well as an appropriate regulatory framework both in national contexts as well as in forging a common Nordic 5G space.

2.5.8 GovTech

StartOff programme

Norway's GovTech programme, called StartOff, was launched in 2021, as part of the State Budget for 2021 (in Norwegian only). It aims to facilitate cooperation between the public sector, start-up environments and GovTech providers.

It was also mentioned in the White Paper *An innovative public sector — Culture, leadership and competence, chapter 11.*

3 Digital Public Administration Legislation

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3.1 Specific Legislation on Digital Public Administration

Public Administration Act

The Public Administration Act sets out the procedure in cases concerning public administration. The act states that the public sector must communicate digitally with citizens by default, unless they choose to opt out.
The Public Administration Act is currently under revision. One of the main rationales for the revision is the digitalisation of public administration.

Regulation on Electronic Communication with and within Public Administration

The Regulation on Electronic Communication with and within Public Administration is intended to promote predictability and flexibility, and to facilitate the coordination of secure and appropriate technical solutions.

Regulation on IT Standards in Public Administration

The Regulation on IT Standards in Public Administration is intended to promote interoperability with and within public administration through the use of common standards and architectures. In 2021, the Norwegian Digitalisation Agency carried out an evaluation of the Regulation on IT Standards in Public Administration, which is currently under revision.

Regulation on the Universal Design of Information and Communication Technology

The Regulation on the Universal Design of ICT came into effect in Norway in 2013. The requirements in the regulation are relevant for private sector businesses, organisations, and public sector bodies. They are applicable to websites, mobile applications, and self-service machines. The regulation is based on the Equality and Anti-Discrimination Act of 2009.

Digitalisation Circular

The Digitalisation Circular is an annual circular presenting the Norwegian government's main directives and recommendations for digitalisation in the public sector. The directives are mandatory for most State-level entities and recommended for local-level government (municipalities and counties).

3.2 Interoperability

No legislation has been adopted in this field to date.

3.3 Key Enablers

3.3.1 Open Data, Reusability and Access to Public Information

Constitution of Norway

According to Article 100, everyone has a right of access to documents of the State and municipal administration, as well as a right to follow the proceedings of the courts and democratically elected bodies. Limitations to this right may be prescribed by law to protect the privacy of individuals or for other such purposes. It is the responsibility of State authorities to create the conditions that facilitate open and enlightened public discourse.

Freedom of Information Act

The Freedom of Information Act No. 69 of 19 June 1970 was repealed by Act No. 16 of 19 May 2006 relating to the right of access to documents held by public authorities and public

undertakings. The purpose of this Act is to facilitate an open and transparent public administration, and thereby strengthen freedom of information and expression, democratic participation, legal safeguards for the individual, confidence in public authorities and control by the public. Furthermore, it shall ease the re-use of public information.

Re-use of Public Sector Information

Norway has notified the full transposition of the European Directive on the re-use of Public Sector Information (PSI Directive). The Directive is implemented in the Freedom of Information Act.

3.3.2 eID and Trust Services

eIDAS Regulation

Regulation (EU) No. 910/2014 (eIDAS Regulation) is a legal act on European level setting rules for secure and seamless use of electronic identification and electronic transactions in the European Single Market. Since its introduction in 2014 it has been progressively introduced in the whole EU/EEA area. The eIDAS Regulation has been transposed into Norwegian law, coming into effect in June 2018.

eSignatures Legislation

The Act relating to the implementation of the EU Regulation on electronic identification and trust services for electronic transactions in the internal market of 15 June 2018 (Act relating to electronic trust services) transposed Regulation (EU) No. 910/2014 (eIDAS Regulation) into Norwegian law.

3.3.3 Security Aspects

Personal Data Act

The purpose of Act No. 31 of 14 April 2000 relating to the processing of personal data (Personal Data Act) is to protect natural persons from the violation of their right to privacy through the processing of personal data. It ensures that personal data is processed in accordance with the fundamental respect for the right to privacy, including the need to protect personal integrity and private life, and that personal data is of adequate quality. This Act transposes Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data into Norwegian law.
An updated Personal Data Act came into effect July 2018, incorporating the General Data Protection Regulation.

Personal Data Regulations

The regulations on the processing of personal data (Personal Data Regulations) were laid down by the Royal Decree of 15 December 2000 pursuant to Act No. 31 of 14 April 2000 on the processing of personal data (Personal Data Act), as amended on 23 December 2003.

3.3.4 Interconnection of Base Registries

Population Registry

The Population Registry Act is divided into six different chapters:
- Organisation of the registry;
- Information and notification requirements;
- Confidentiality;
- Use of the registry's information;
- Penalty clauses; and
- Domicile registration of cabinet members and members of parliament.

The Act positions the population registry as a central national registry, which includes records of persons, who are or have been residents of Norway, who were born in Norway and who were assigned ID numbers. The State must ensure the maintenance of the population registry, bearing its costs. The information in the registry is gathered for tax, electoral and population analyses

purposes by local tax assessment offices and is overseen by the Directorate of Taxes (*Skattedirektoratet*). Information from the registry, e.g., names, addresses, citizenship, identification numbers, employment and civil status of individuals, is only accessible by authorised public sector offices. However, citizens may apply to access the information from the registry for legal purposes.

Companies Registry

The registration of companies is regulated by the Law on Legal Entities No. 15 of 3 June 1994 with its respective amendments. The Law is also known as the Entity Registration Act. The Law aims to promote efficient use and coordination of public information regarding legal persons, sole proprietorships and other registries through the creation, organisation and operation of a national registry. It regulates the type of entities to be registered and the information to be recorded, the relationship with the affiliated registries, the notifications to the registry, the registration, the inspection of messages, and the exchange and disclosure of information. Private businesses have access to public information through the commercial distributor.

Land Registry

The Law on Land Registration and the Law on Cadastre regulate the operation of the Land Registry and the Cadastre. The former refers to the Land Registry authorities and all the information regarding the registration procedure. The latter regulates the maintenance, access, collection and processing of data, public fees, sanctions and fines related to the Cadastre. Even though no former definition exists regarding land registry, the Law on Cadastre defines the cadastre as "the country's official registry of real estate properties, residential buildings and addresses".

3.3.5 eProcurement

Public Procurement Act

Norway notified the full implementation of Directives 2004/17/EC and 2004/18/EC of the European Parliament and of the Council of 31 March 2004 which state that in view of new developments in information and telecommunications technology and the simplification that these can bring in terms of publicising contracts, and the efficiency and transparency of procurement procedures, electronic means should be put on a par with traditional means of communication and information exchange.

eInvoicing Legislation

B2B eInvoicing has been mandatory for central government entities in Norway since 2011. In 2019 new legislation has been introduced to make eInvoicing mandatory for all public sector entities, both at State and municipal level. eInvoicing is regulated by Regulation FOR-2019-04-01-444 (*Forskrift om elektronisk faktura i offentlige anskaffelser*).

3.4 Domain-specific Legislation

eCommerce Act

The eCommerce Act No. 35 of 23 May 2003 transposes into national law the EU Directive on Electronic Commerce (Directive 2000/31/EC). It applies to electronic commerce and other information society services and regulation and control of such services by public authorities. Its purpose is to ensure free movement of information society services within the European Economic Area (EEA).

Electronic Communications Act

The Electronic Communications Act No. 83 of 4 July 2003 aims to ensure sound, reasonably priced and future-oriented electronic communications services for Norwegian users through the efficient use of society's resources. This is to be achieved by facilitating sustainable competition, as well as stimulating industrial development and innovation. The Act regulates the transmission of electronic communications in addition to the associated infrastructure, services, equipment and installations.

The Archival Act No. 126 of 4 December 1992 aims to secure a holistic documentation of society. The purpose of the act is to guarantee that documentation, which has cultural, research, administrative and rights-based importance, is kept for the future. The act provides rules for archiving in public administration, including electronic archiving.

3.5 Innovative Technologies

3.5.1 Artificial Intelligence (AI)
No legislation has been adopted in this field to date.

3.5.2 Distributed Ledger Technologies
No legislation has been adopted in this field to date.

3.5.3 Big Data
No legislation has been adopted in this field to date.

3.5.4 Cloud Computing
No legislation has been adopted in this field to date.

3.5.5 Internet of Things (IoT)
No legislation has been adopted in this field to date.
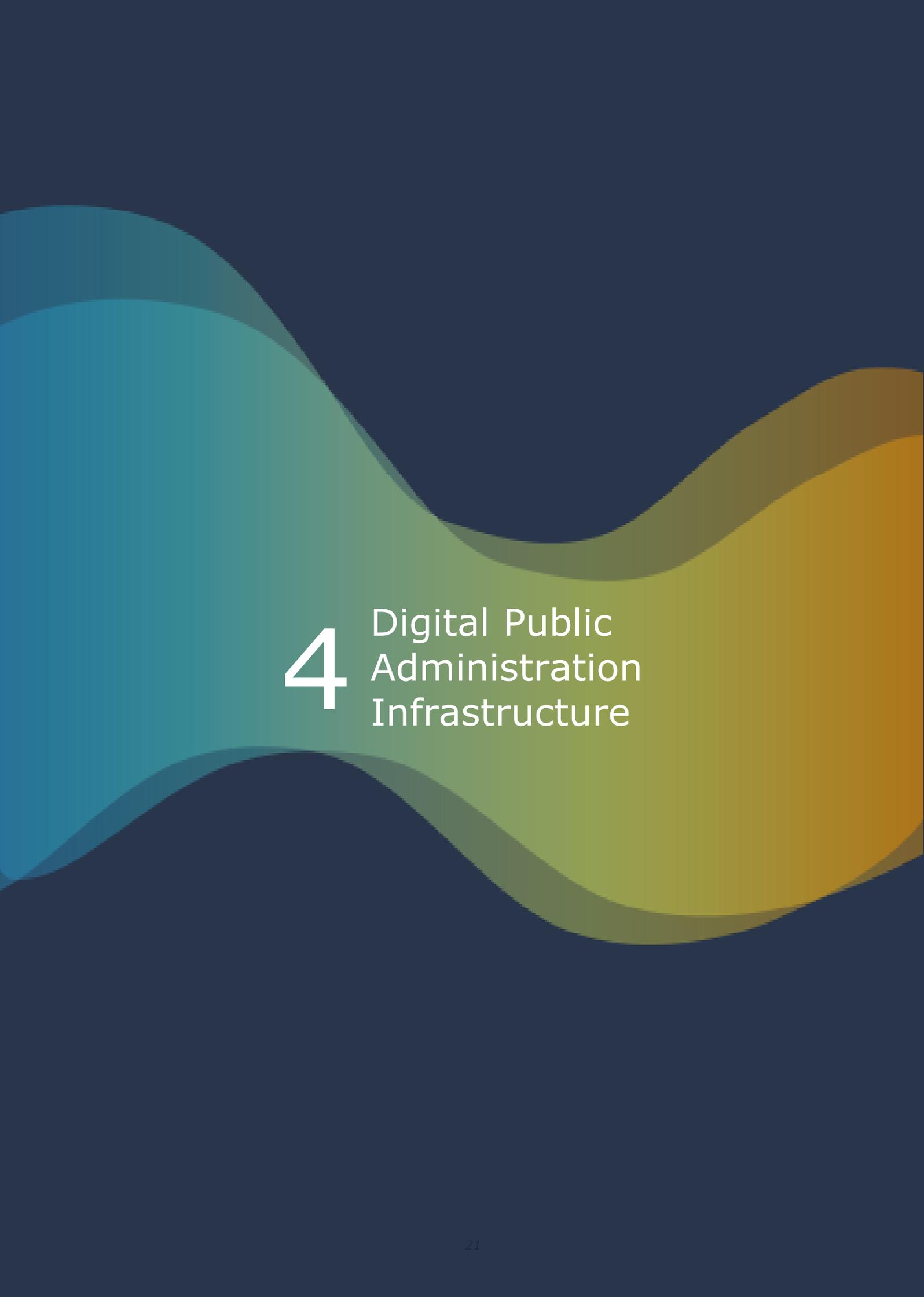
3.5.6 High-performance Computing
No legislation has been adopted in this field to date.

3.5.7 High-speed Broadband Connectivity
No legislation has been adopted in this field to date.

3.5.8 GovTech
No legislation has been adopted in this field to date.

4 Digital Public Administration Infrastructure

4 Digital Public Administration Infrastructure

4.1 Platforms and Applications

4.1.1 National Platforms and Applications

Ovelse.no Portal

Ovelse.no is a platform owned by the Norwegian Directorate for Civil Protection (DSB) and is operated by the Norwegian Cyber Range at the Norwegian University of Science and Technology (NTNU). Launched in October 2020, the platform hosts an exercise package targeted at Norwegian organisations. The purpose of these exercise scenarios is to increase awareness of digital vulnerabilities and to make various organisations better prepared to handle information security incidents. All the exercises are set up as discussion exercises, and the methodology is based on the DSB's method booklets for exercise planning.

Norge.no Portal

Norge.no is a gateway and guide to digital services from public authorities in Norway. Users can find digital services via the portal's topic menu, search function or eight life situation descriptions. The portal also has information about digital communication between public authorities and citizens. Norge.no also presents citizens with information about the Norwegian public sector's digital mailbox and Digital Contact Information Register.

All public authorities are obliged to send mail to citizens digitally, using a secure digital mailbox. Citizens who do not wish to receive post digitally, may opt to receive official letters and documents via paper mail. In order to use a secure digital mailbox, citizens must have an electronic ID and keep their digital contact information updated in the national contact register. The contact and reservation registry has been up and running since 2014.

Altinn Portal

The Altinn Portal, which has been redesigned to improve user experience, offers seamless services to ease the reporting burden imposed by government agencies. It is a solution to develop and maintain forms and work processes, together with a reporting solution to facilitate the information flow from businesses to government. Businesses file their reporting information to Altinn either through an internet portal website, or by using their own internal information systems or software packages. Individuals can also file their personal income tax electronically through Altinn.

As Norway's Point of Single Contact (PSC), Altinn is tasked with the provision of all information needed by any European service provider interested in starting a business in Norway.

Standardisation Portal

The Standardisation Portal aims to inform its users about the standards that are mandatory or recommended for use in the Norwegian public sector. The standards on this website are mostly related to ICT; however, standards related to areas such as public contracts, semantics and service-oriented architecture can also be found. The main goal regarding its activities with standards within the public sector is to strive towards better coordination among public authorities and services, transparency and efficiency.

GeoNorge Portal

The GeoNorge Portal is the national portal for the 'Norway Digital' geospatial infrastructure. It is the largest open, standards-based eGovernment component in daily use in Norway. It constitutes the umbrella for a large number of geospatial eServices, making basic geographic information and a variety of thematic information readily available. The information provided by the portal enables geospatial data to be used by different communities, including public administration and environmental management bodies. The infrastructure also includes a gateway for distributing the information to non-partners and the private sector.

Moreover, GeoNorge makes geographical data in digital format available to citizens; the data is collected in a central system (Norway WEB digital download) which can be accessed by citizens via a username and password authentication mechanism. By accessing the system, citizens can consult and download files on elevation data, administrative boundaries, transformation formulas,

as well as related topics like cultural heritage, herding and many more. The system provides both county and national data.

4.1.2 Subnational Platforms and Applications

Norge.no Portal

The Norge.no Portal is a portal of services both at the State, regional and local levels. It presents services both according to topics and to life events. Typically, life events involve public services at both the State and municipal level.

4.2 Networks

Current Infrastructure

Norway has an adequate infrastructure for telecommunications networks, services and eGovernment which allows for system interoperability and data interchange between administrations. In certain areas, the government has taken the initiative to support the creation of specific infrastructure as exemplified in the National Health Network which links five regional networks and provides a single information exchange platform in the health and social sectors.

Trans European Services for Telematics between Administrations

Norway is part of the Trans European Services for Telematics between Administrations (TESTA) network service, which provides data exchange with guaranteed performance and high level of security between public administrations in European states. Currently there are 10 connected administrations in Norway.

4.3 Data Exchange

Datafabrikken

In October 2020, the Norwegian government agreed to allocate NOK 16 million to the Norwegian Digitalisation Agency to establish a Data Factory (*Datafabrikken*) in cooperation with DigitalNorway, starting in 2021. The project aims to make it easier for small and medium-sized enterprises to take part in the computer-driven economy. It will provide expertise on data sharing and data connection, and support a number of government strategies, including the government's Digitalisation Strategy and National Strategy for Artificial Intelligence.

In *Datafabrikken*, providers and users of data will have access to functions and resources that are necessary to create digital services and new industries based on data. *Datafabrikken* will mediate data available from various sources and help small and medium-sized enterprises and start-up companies to obtain relevant data and support to process the data. The data disseminated through *Datafabrikken* will come from private businesses and public enterprises.

Reference Architectures for Data and Document Exchange

The Norwegian Digitalisation Agency has published reference architectures for three general patterns of data and document exchange: lookup, delivery and notification. The architectures are based on international best practices, including a European reference architecture for eDelivery. It has been adopted to a Norwegian context through the Agency's cooperation with public and private sector enterprises.

4.4 eID and Trust Services

MinID

MinID allows citizens to access public services that require a medium-high level of security. Examples of such services include: applying for a loan from the Norwegian State Educational Loan Fund; applying to upper secondary school; changing a tax return; changing a family doctor;

changing an address in the National Population Register. It is used by 2.6 million Norwegians. MinID makes use of the ID-Gateway, the common platform for eID in the Norwegian public sector. Responsibility lies with the Norwegian Digitalisation Agency.

In the wake of the COVID-19 public health crisis, many foreign nationals had to leave their jobs in Norway and return home. Some of these people were entitled to unemployment benefits, which need to be accessed with an eID. However, many of these foreign workers did not have such an eID. In order to remedy this, the MinID was further developed with a MinID Passport. The MinID Passport allows users to scan their own passport and take pictures with facial recognition in order to verify their identity, thus allowing employees abroad to access the unemployment benefits they are entitled to. In addition, the technical solution is a breakthrough as a new method of issuing eIDs, in that users do not have to show up physically to get one.

Buypass, Commfides and BankID eID solutions

BuypassID, Commfides and BankID enable citizens to access public services that require a medium and high level of security, as well as services that require the highest level of security. This applies to health information and the signing of documents, among other services. BankID is also used by citizens to access their online bank accounts.

ID-Gateway

The Norwegian Digitalisation Agency provides the eID solution ID-Gateway (*ID-porten*), which is a common infrastructure for the use of eIDs in the public sector. The first version (1.0) of ID-Gateway was introduced in November 2009 and is currently used with MinID (the common log-in system for accessing online public services). This eID platform facilitates the use of several types of eID and offers more advanced electronic public services. Furthermore, it gives the opportunity to various entities to provide more person-sensitive services, related to health information. Responsibility lies with the Norwegian Digitalisation Agency.

NOBID

Norway manages the Nordic-Baltic eID Project (NOBID), which aims to secure borderless access to digital services throughout the Nordic-Baltic region for citizens and businesses using their own national eIDs.

Coordination responsibility is held by the Norwegian Digitalisation Agency.

4.5 eProcurement

Anskaffelser.no Portal

The Norwegian Agency for Public and Financial Management manages the Anskaffelser.no Portal for all actors involved in public procurement. It contains tools and information, and its expertise favours efficient procurement transactions with the public sector. The portal offers advanced, complete eProcurement and eCommerce services guiding all interested parties through eProcurement stages, from planning to competitive conduct, including follow-up and liquidation. The portal includes eHandel.no, which specialises in eCommerce. The website offers extended services and information on eCommerce, the newly established eCommerce platforms and electronic invoicing. These services aim at offering easy access to comprehensive information about eCommerce and guidance on how eCommerce services can be an effective tool for better, easier and safer purchases. The purpose of eHandel.no is to give public sector entities and their suppliers easy access to a user-friendly and affordable tool for operational eProcurement.

Doffin: Public Procurement Database

Doffin aims to facilitate public authorities in complying with Norwegian public procurement regulations by allowing the creation and publication of tender notices. Since all notices are published on this platform, it is also a great resource for suppliers interested in business opportunities in the public sector. Tender publication is mandatory on Doffin, while eProcurement services are not. It is administered by The Norwegian Agency for Public and Financial Management.

Norway uses a standard for electronic invoicing and credit notes – EHF. All invoices to and from public sector entities use the EHF standard format, via the Peppol eDelivery network. All recipients of electronic invoices and their contact addresses are registered in ELMA, a registry managed by The Norwegian Digitalisation Agency.

4.6 ePayment

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

4.7 Knowledge Management

National Data Catalogue - Data Norway

Norway has a National Data Catalogue. It provides an overview of data sets, APIs, concepts and information models that have been registered and made available by public agencies, making it both easier to search for public sector data and re-use it, for example for analytical purposes. The directory was established following the merging of data.norge.no and the National Data Catalogue, making it easier to create user-friendly services for citizens and ensuring better access to data for public and private enterprises. The catalogue addresses the need to discover, evaluate and access data. The directory is built on a flexible architecture, offering solutions for both mature and less mature data providers and consumers. Furthermore, the directory was developed with an open-source code, allowing users to spot missing functionalities and develop them on their own or ask the Digitalisation Agency for cooperation in creating them.

eInnsyn

The common solution eInnsyn, based on the previous Electronic Public Records (OEP) solution, is a tool that allows central government agencies to publicise their public records online. The new solution enables more openness and accessibility regarding public information and strengthens the freedom of information. The solution was launched in January 2018.

National Archival Services of Norway

The National Archival Services have provided common standards and specifications for digital archiving, which are now used by most public organisations in the country. It should be noted, however, that compatibility among large public databases remains relatively limited.
The National Archives provide a shared platform for publishing digitalised archive material, called the Digital Archives. The publishing platform is mainly used by the National Archives but is also open to other Norwegian archives, e.g. municipal and regional archives.

Norway Digital Programme

Norway Digital is a nation-wide programme for cooperation on the establishment, maintenance and distribution of digital geographic data. The aim is to enhance the availability and use of quality geographic information among a broad range of users, primarily in the public sector. All institutions participating in the programme bring their own data into the infrastructure so as to make it available to the other partners.

Municipal Data Lakes

The city of Bergen was one of the first municipalities to establish a data lake. This implies that the Bergen municipality is partnering with Bouvet, a consultancy, in establishing a data lake. The project ensures sharing and reusing data across divisions in the municipality, as well as facilitating new innovation and digitalisation partnerships. The private sector is invited to build their own solutions on top of the data in the data lake. The beneficiaries are the people living in Bergen, the municipality's partners and local businesses. Other municipalities, notably Stavanger, have also taken steps to establish a data lake.

Test Norway

Test Norway (TENOR) is a tool developed to provide dynamic, synthetic test data that can be used, for instance, in system development testing. Currently TENOR provides synthetic test data from the National Population Register, and more sources will be added.

4.8 Cross-border Infrastructures

European Initiatives

Through its participation in previous and current EU-programmes, Norway supports cross-border research, innovation and cooperation within digital service development.
Norway is part of the Europe's TESTA network service, which provides data exchange with guaranteed performance and high level of security between public administrations in European countries. Currently there are 10 connected administrations in Norway.
Norway, via the node run by the Norwegian Labour and Welfare Administration (NAV), also makes use of the Electronic Exchange of Social Security Information (EESSI). The EESSI enables social security bodies across Europe to exchange information more rapidly and securely.
The Brønnøysund Register Centre is a member of the European Business Registry. The Brønnøysund Register Centre also participated with in the TOOP-project (Once-Only principle) alongside the Norwegian Maritime Authority (NMA).
These and several other initiatives from previous EU-programmes, such as CEF and ISA², will contribute to new actions within EUs Digital Europe Programme (2021-2027). Norway presently participates also in the Horizon Europe and EU4Health programmes. The Research Council of Norway, Innovation Norway, the Norwegian Digitalisation Agency and the Norwegian Directorate of Health are national agencies responsible for coordinating Norway's participation in these programmes.
Norway is also an active contributor to the Your Europe portal, as well as a member of EUs initiative INSPIRE , EULIS and EUCARIS.

Nordic Initiatives

Norway has close cooperation with other Nordic and Baltic countries, particularly through programmes financed by the Nordic Council of Ministers.
In 2021, Norway took on the role of secretariat for Nordic Council of Minister's programme Cross-Border Digital Services. Within this programme, Norway leads the NOBID project, which aims to enable access to national digital services by facilitating the exchange and verification of electronic IDs, based on the eIDAS Regulation, to users from the Nordic and Baltic countries.
Norway is also a member of the Nordic Smart Government and Business programme. The programme is an instrument under the Nordic Council of Ministers, which aims to create a platform for transactional reporting of business data for small and medium businesses in order to reduce, or even eliminate, the need for reporting and facilitate B2B use of information. The success of programme's solutions depends on extensive access to base registries.
Last but not least, the tax authorities of Denmark, Iceland, Norway, Finland and Sweden are connected to and operate the Nordic tax portal, Nordisk eTax. The portal serves people who live in one Nordic country but have income or assets in another Nordic country.

4.9 Base Registries

KOSTRA

The Municipality-State-Reporting KOSTRA system allows municipalities and counties to report electronically to the State data on the economy, schools, health, culture, the environment, social services, public housing, technical services and transport, and communication. KOSTRA focuses on two main purposes: providing better information about the municipalities at central and local government level and striving for more efficient reporting. It is updated every six months.

National Population Register

Information on everyone living in Norway is gathered for tax, electoral and population analysis purposes by local tax assessment offices. This information is registered in the National Population Register (*Folkeregisteret*) and is overseen by the Directorate of Taxes (S*kattedirektoratet*).

Information from the National Register (e.g. names, addresses, citizenship, identification numbers, employment and civil status of individuals) is only accessible by authorised public sector offices. However, members of the public may apply for access to information from the National Registry for legal purposes. Applications for information from the National Registry are processed by local tax assessment offices and the Office of the National Register.

Altinn

A common technical platform, called Altinn, was created for the public sector to exchange data from base registries with the purposes of prefilling digital forms, reporting to the public sector and for lookup-services in the base registries, e.g. the National Population Registry and the Central Coordinating Register for Legal Entities. Altinn, now run by the Norwegian Digitalisation Agency, contains an authorisation module that governs access to services by the role of individuals and businesses. The businesses roles, e.g. director, board member, accountant, are managed in the Entity Registry. The Norwegian Entity Registry (or Central Coordination Register for Legal Entities, CCR) contains information about both businesses and public entities (meant as governmental agencies). A new registry, currently under development within the Brønnøysund Registry Centre, will add authorisation by proxy. This will furthermore extend the authorisation component in Altinn. The authorisation component also manages data sharing with user consent. Moreover, Altinn maintains the Norwegian metadata repository SERES, which is a standard for the design of web forms in Altinn.
In June 2020, Altinn 3.0 was released. The end-of-life for the technology upon which Altinn was previously built, namely Microsoft Inpath, was announced. The development of Altinn 3.0 was therefore crucial to guarantee its future. As part of Altinn 3.0, Altinn Studio was developed. Altinn Studio can be used to develop and run everything from simple forms to complete applications. This solution is based on open-source components and has been developed to allow service owners to develop modern applications on a scalable and future-oriented infrastructure for citizens and businesses.

Land Registry and Cadastre

The Norwegian Mapping Authority is responsible of the Land Registry and the Cadastre. The Land Registry, serving as a central database, is fully digitised. The Norwegian Mapping Authority does registration of documents, data checking and recording. The Norwegian Cadastre is a public registry of real properties, including information on buildings and addresses. The Cadastre is administered and technically hosted by the Norwegian Mapping Authority. Municipalities undertake cadastral surveying. These two central databases are technically linked, providing an integrated online service to users.

Business Register

The Brønnøysund Register Centre (*Brønnøysundregistrene*) is a Norwegian government body responsible for the management of numerous public registers in Norway and is subordinate to the Ministry of Trade, Industry and Fisheries. Among the registers that the authority governs are the Central Coordinating Register for Legal Entities, the Register of Business Enterprises, the European Business Register, the Register of Company Accounts, the Register of the Reporting Obligations of Enterprises, the Register of Mortgaged Moveable Property, the Register of Bankruptcies, the Register of Marriage Settlements, and the Register of Political Parties.

Contact and Reservation Register

The Contact and Reservation Register is a Norwegian base register containing information on citizens' digital contact data, e.g. mobile phone number and e-mail address. It also contains information on citizens' preferences in terms digital mailbox, language used for digital communication and willingness to receive mail digitally. It is run by the Norwegian Digitalisation Agency.

4.10 Innovative Technologies

4.10.1   Artificial Intelligence (AI)

No infrastructure has been adopted in this field to date.

4.10.2   Distributed Ledger Technologies

European Blockchain ESBI

Norway is participating in the European blockchain infrastructure with an EBSI node. The University of Oslo has established a pilot node, and a production node is under construction in collaboration with the EBSI-NE consortium.
Several use cases are being piloted in Norway on the EBSI infrastructure as well as other blockchain platforms, such as Track and trace (supply chain) and Organizational identity.

4.10.3   Big Data

No infrastructure has been adopted in this field to date.

4.10.4   Cloud Computing

Altinn Platform

No national infrastructure has been adopted in this field to date. However, Norway makes use of the national platform Altinn to provide development of digital services as a cloud service.

The Norwegian National Security Authority (NSM) is currently researching the possibilities of a national cloud.

4.10.5   Internet of Things (IoT)

Several municipalities and Digi Networks (owned by municipalities) have Smart City initiatives. The National Welfare Technology Program is a collaboration between KS, the Directorate for e-Health and the Directorate of Health, which contributes to more municipalities adopting welfare technology.

4.10.6   High-Performance Computing

Sigma2

Sigma2 AS has strategic responsibility and manages the national eInfrastructure for large-scale data and computational science in Norway. Sigma2 provides services for high-performance computing and data storage to individuals and groups involved in research and education at all Norwegian universities and colleges, and other publicly funded organisations and projects. They also coordinate Norway's participation in international collaborations on eInfrastructure. Activities are jointly financed by the Research Council of Norway (RCN) and the Sigma2 consortium partners, which are the universities of Oslo, Bergen, Trondheim and Tromsø. This collaboration goes by the name NRIS – Norwegian Research Infrastructure Services. The business is run as non-profit. On 1 January 2022, the Ministry of Education and Research established a new agency, the Norwegian Agency for Shared Services in Education and Research (Sikt). Sigma2 is now a subsidiary under Sikt.

4.10.7   High-speed Broadband Connectivity

Draft Strategy

In the White paper, 'Our common digital foundation' (Report. St. 28 (2020/2021), the government sets targets to ensure that all residents and businesses have access to a forward-looking and secure digital foundation. This includes high-speed broadband connectivity.

Please note that national authorities are tasked with setting goals and strategies in this area, but the infrastructure itself is built and maintained by the private sector.

4.10.8   GovTech

StartOff Framework

The StartOff framework has been established to facilitate public procurement for start-ups. The framework includes financial support, a defined process, guidance and project support, templates for procurement documents, and sharing of experiences. More information on the StartOff programme can be found on its webpages.

Circular and Climate Friendly Public Procurements is an area of special interest for the Norwegian and Nordic administrations. Circular projects are one of the areas that the StartOff programme provides financing for.

Several regulatory sandboxes have been established to stimulate innovation in different fields: artificial intelligence, finance, archives, and the aquaculture industry. The sandboxes are open to both public and private sector participation, and therefore facilitate innovation, cooperation digitalisation and the development of new technologies that eventually can innovate and improve public services.

5 Digital Public Administration Governance

5 Digital Public Administration Governance

For more details on Norway'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 Local Government and Regional Development

The Ministry of Local Government and Regional Development is responsible for the national digitalisation politics. Through the Department of National ICT Policy and Public Governance, the Ministry is responsible for coordinating the government's efforts to reform and recondition the public sector; formulating the strategy and policy for the use of ICT in society; the government's administration policy, including, amongst other things, government use of organisational structures and other supervision instruments; and finally providing socio-economic and other fact-based analyses of the public administrative sector and the use of resources therein.

Norwegian Digitalisation Agency

The Norwegian Digitalisation Agency is the Norwegian government's foremost tool for digitalisation of the public sector. The Norwegian Digitalisation Agency operates and develops important national solutions and ensures the strategic coordination of digitalisation in the sector. The Norwegian Digitalisation Agency's target groups are central and local government authorities, businesses and the third sector, and the general public. It is subordinate to the Ministry of Local Government and Regional Development.

The roles as rule-setter within digitalisation, provider of expertise within information security, responsible body for the operation of common IT solutions, and manager of the Altinn cooperation, the Co-Financing Scheme and innovation scheme Stimulab, as well as the Authority for Universal Design of ICT, are all part of the Norwegian Digitalisation Agency.

The Norwegian Digitalisation Agency is the secretariat for several advisory bodies related to digitalisation, including Skate, an advisory body for strategic cooperation on digitalisation of the Norwegian public sector, the Architecture and Standardisation Board, which advises on issues related to standards, interoperability and national architecture, and the Digitalisation Board, which is a voluntary advisory board for digitalisation projects in the public sector.

Department of National ICT Policy and Public Governance

The Department of National ICT Policy and Public Governance of the Ministry of Local Government and Regional Development is responsible for the work associated with policy implications concerning the prevalence of ICT in the public sector. It has an active, horizontal presence in the implementation process as it is the main body responsible for initiating and administering policies related to ICT and eGovernment.

Since 2016, the Norwegian government has co-financed ICT-projects that are economically profitable through a co-financing scheme for ICT projects. The goal is to realise better and faster digitalisation projects, and to aid the realisation of the government's Digital Strategy for the Public Sector 2019-2025. The government has an innovation scheme named StimuLab, which aims to promote the user's perspective in public service innovation. The progress of StimuLab was detailed in a report in October 2020, examining what has been achieved in the four years since StimuLab was launched and the experiences from the 21 projects that had received funding thus far.

Government Administration Services

The Government Administration Services (DSS) is a government agency aimed at providing synergy for ministries with cost-effective and reliable shared services, including the operation of computer systems. It reports directly to the Ministry of Local Government and Regional Development, which utilises the DSS as a means of improving the way the national government functions.

Norwegian Centre for Information Security

The objective of Norwegian Centre for Information Security (NorSIS) is to provide advice and guidance on information security in Norway. It seeks to make ICT a natural part of everyday life by raising awareness about threats and vulnerabilities, advising on specific measures and contributing to forming positive attitudes in information.

National Cybersecurity Centre

Norway established a National Cybersecurity Centre in 2019. The Centre has a national responsibility for cyber security, including national level ICT risk assessment. It brings together cyber security expertise from a range of government and private sector entities, law-enforcement bodies and research institutions.

National Resource Centre for Data Sharing and Use

Established in September 2020, the National Resource Centre for Data Sharing works to promote the sharing and reuse of data by disseminating knowledge about relevant regulations and contribute to an efficient and user-oriented public sector that utilises the potential found in data and data sharing to create user-friendly services. The centre is part of the Norwegian Digitalisation Agency and will facilitate innovation, development of new services and value creation by sharing data between public activities and between the public and private sector and researchers. The Centre was developed as part of a commitment made in the One Digital Public Sector digitisation strategy.

One key component of the Centre is the national toolbox for data sharing, launched in January 2021. The toolbox is an overview of agreements, solutions, standards, architectures, regulatory support and guidelines for roles and responsibilities that are relevant when sharing data. It is presented as a customised process guide for the main target groups: data consumers and data providers and aims to help them in their user journey.

Brønnøysund Register Centre

The Brønnøysund Register Centre (*Brønnøysundregistrene*) is a Norwegian government body responsible for the management of numerous public registers in Norway and is subordinate to the Ministry of Trade, Industry and Fisheries. The registries it governs include:

- The Central Coordinating Register for Legal Entities;
- The Register of Business Enterprises;
- The Register of Company Accounts;
- The Register of the Reporting Obligations of Enterprises;
- The Register of Mortgaged Moveable Property;
- The Register of Bankruptcies;
- The Register of Marriage Settlements; and
- The Register of Political Parties.

Since 2017, the Brønnøysund Register Centre has been developing a new registry platform called BRsys. The platform is an important solution for the digital communication between businesses, citizens and the government in Norway. In the autumn of 2020, an important milestone was reached: the launch of the first service developed on the new platform. The Business Compensation Scheme, a government measure to mitigate the financial effects of the COVID-19 public health crisis and the infection control measures was also realised in part using the new registry platform.

Data Protection Agency

The Data Protection Agency is an independent administrative body which is entrusted with the application of data protection laws. It verifies organisations' compliance on processing personal data, regulates the processing of sensitive data through licences and advises on matters concerning the protection of privacy.

Privacy Appeals Board

The Privacy Appeals Board is the appeal body for decisions made by the Data Protection Agency. It considers appeals against decisions made by the Data Protection Agency pursuant to the Personal Data Act and several other acts.

5.2 Subnational (Federal, Regional and Local)

Norwegian Association of Local and Regional Authorities

The Norwegian Association of Local and Regional Authorities (KS) is an association of municipalities and counties contributing to ICT development by: protecting municipal interests with respect to central authorities, suppliers and other interest groups; contributing to the development of standards and requirement specifications for the exchange of information, integration of solutions and joint tools, ideally in cooperation with central authorities; inspiring and contributing to competence development in the municipal sector through proposals and recommendations, benchmarking, development of guidelines and establishing experience exchange networks.

The KS holds regular meetings with the Ministry of Local Government and Regional Development, at political and administrative levels. It also participates in several boards, committees and working committees in other ministries and various government departments that deal with ICT issues.

6 Cross-border Digital Public Administration Services

6 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.

6.1 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).

6.2 Doing Business

Regarding businesses, the groups of services on the website concern:
- Running a business (e.g. Developing a business);
- Taxation (e.g. Business tax);
- Selling in the EU (e.g. Public contracts);
- Human Resources (e.g. Employment contracts);
- Product requirements (e.g. Standards);
- Financing and Funding (e.g. Accounting);
- Dealing with Customers (e.g. Data protection).

The Digital Public Administration Factsheets

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

The factsheets are published on the Joinup platform, which is a joint initiative by the Directorate General for Informatics (DG DIGIT) and the Directorate General for Communications Networks, Content & Technology (DG CONNECT). This factsheet received valuable contribution from the Digdir Public 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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