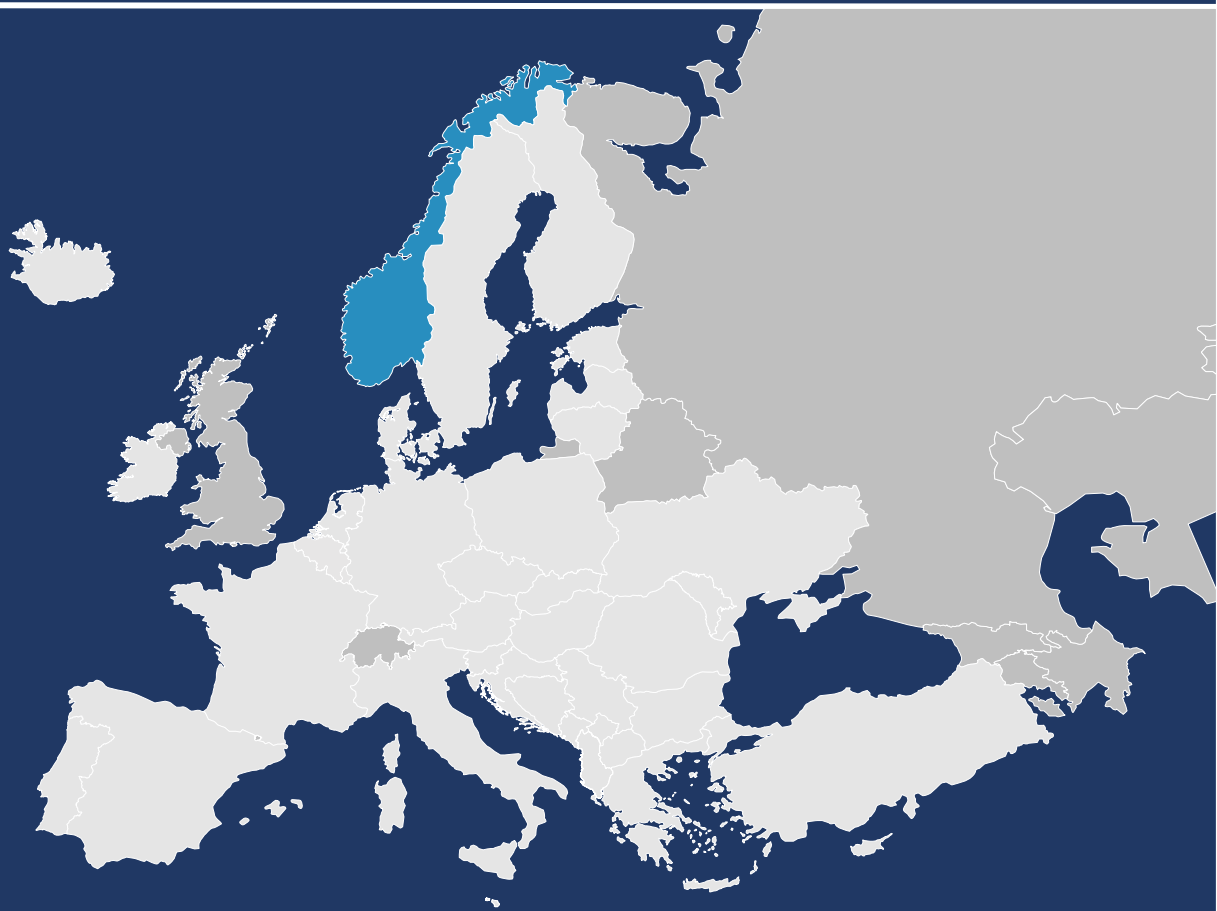


NORWAY

2024 Digital Public Administration Factsheet

Supporting document






Main developments in digital
public administrations and
interoperability

JULY 2024

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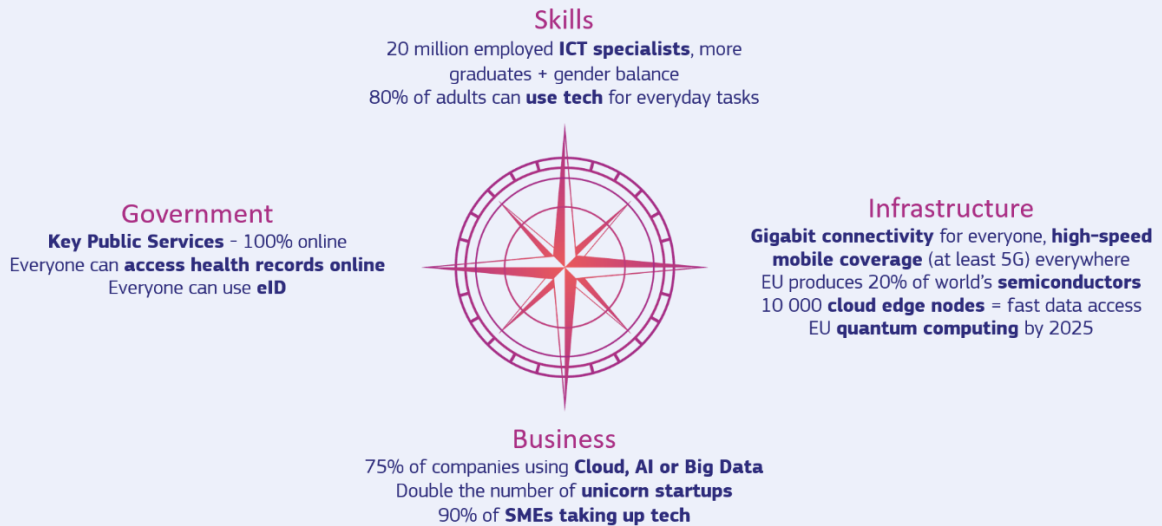
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Icons Glossary		
<i>Political Communication</i>	<i>Legislation</i>	<i>Infrastructure</i>
		

2030 DIGITAL DECADE

The **Digital Decade policy programme 2030** sets out digital ambitions for the next decade in the form of clear, concrete targets. The main goals can be summarised in 4 points:

- 1) a digitally skilled population and highly skilled digital professionals;
- 2) secure and sustainable digital infrastructures;
- 3) digital transformation of businesses;
- 4) digitalisation of public services.



The production of the **Digital Public Administration factsheets and their supportive documents** support the objectives and targets of the Digital Decade programme. By referencing national initiatives on the digital transformation of public administrations and public services, as well as interoperability, they complement existing data and indicators included in the Digital Decade reports and related resources. They also highlight and promote key initiatives put in place or planned by EU countries to reach the Digital Decade's targets.



1. Interoperability State-of-Play

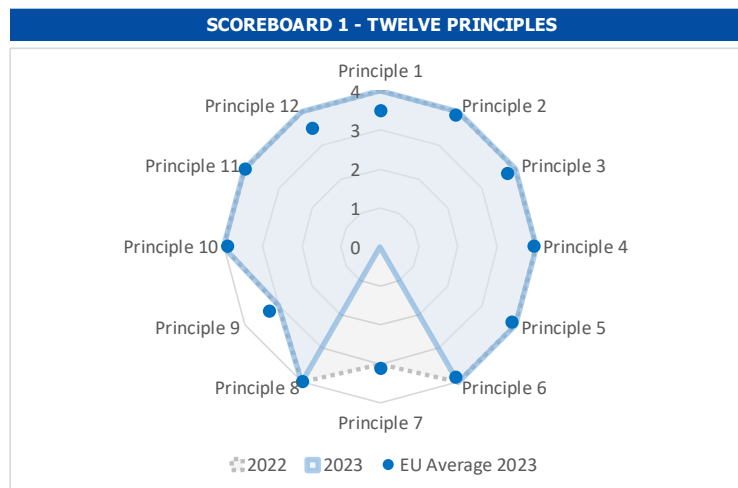
In 2017, the European Commission published the **European Interoperability Framework (EIF)** to give specific guidance on how to set up interoperable digital public services through a set of 47 recommendations divided in three pillars. The EIF Monitoring Mechanism (MM) was built on these pillars to evaluate the level of implementation of the framework within the Member States. The mechanism is based on a set of 91 Key Performance Indicators (KPIs) clustered within the three scoreboards (Principles, Layers, Conceptual model and Cross-border interoperability), outlined below.

Starting from the 2022 edition, an additional scoreboard, Scoreboard 4, focusing on cross-border interoperability, has been incorporated. This scoreboard assesses the adherence to 35 Recommendations outlined in the EIF framework. Specifically, it encompasses Interoperability Principles 2, and 4 through 11 from Scoreboard 1, all recommendations pertaining to Interoperability Layers from Scoreboard 2, as well as Conceptual Model recommendations 36 to 43 and 46 to 47 from Scoreboard 3.

Scoreboard 1 Interoperability Principles		Scoreboard 2 Interoperability Layers		Scoreboard 3 Conceptual Model	
	Recommendation(s) n°		Recommendation(s) n°		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
Principle 3 - Transparency	5	Legal Interoperability	27	Basic Registries	37-40
Principle 4 - Reusability	6-7	Organisational Interoperability	28-29	Open Data	41-43
Principle 5 - Technological neutrality and data portability	8-9	Semantic Interoperability	30-32	Catalogues	44
Principle 6 - User-centricity	10-13	Technical Interoperability	33	External information sources and services	45
Principle 7 - Inclusion and accessibility	14			Security and Privacy	46-47
Principle 8 - Security and privacy	15				
Principle 9 - Multilingualism	16				
Principle 10 - Administrative simplification	17				
Principle 11 - Preservation of information	18				
Principle 12 - Assessment of Effectiveness and Efficiency	19				

Source: European Interoperability Framework Monitoring Mechanism 2023

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 Norway in 2023, comparing it with the EU average as well as the performance of the country in 2022.

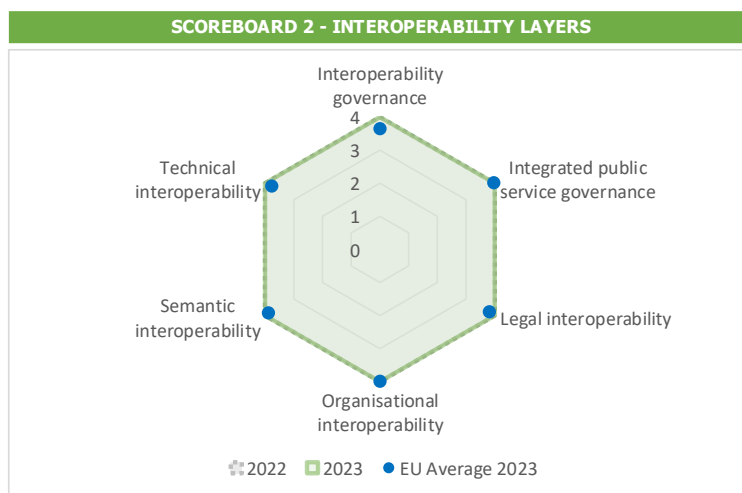


Source: European Interoperability Framework Monitoring Mechanism 2023

Norway's results in Scoreboard 1 reflect a robust implementation of the EIF Principles overall. However, there is room for improvement, particularly in Principle 9 (Multilingualism), where a score of 3 suggests an upper-medium implementation of corresponding recommendations. Enhancing the design of European public services to cater to multiple languages based on end users' needs (Principle 9 – Recommendation 16) could elevate the score to the maximum of 4. In

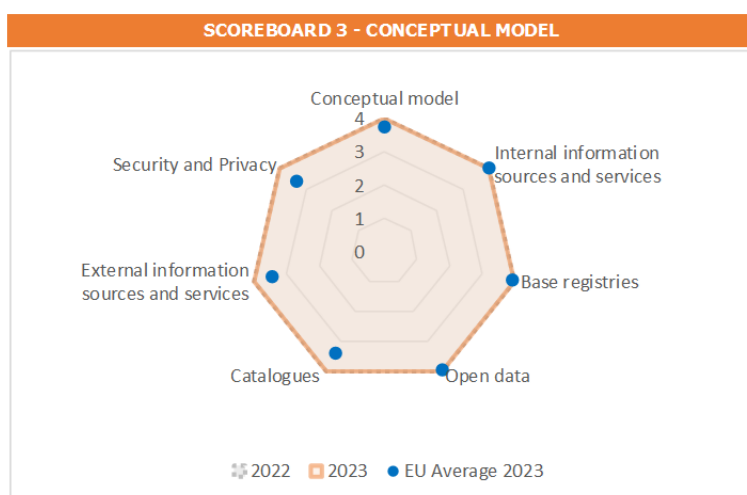


contrast to the situation in 2022, there is no information available on Principle 7 (Inclusion and accessibility), particularly on the use of e-accessibility specifications to ensure that public services are accessible to all citizens, including persons with disabilities, the elderly and other disadvantaged groups (Principle 7 – Recommendation 14).



Source: European Interoperability Framework Monitoring Mechanism 2023

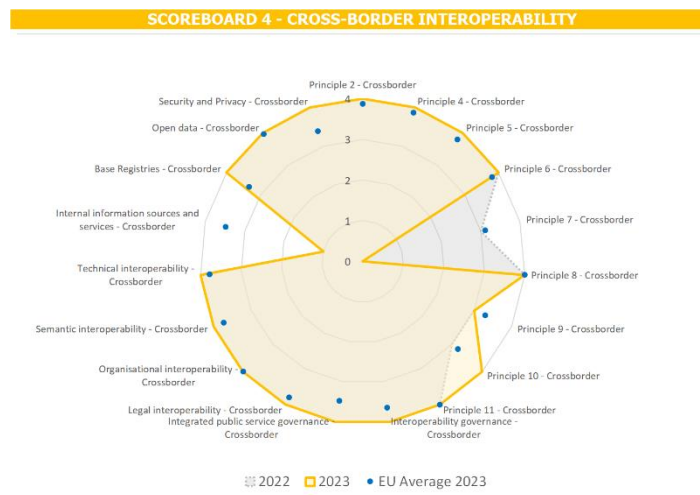
In implementing interoperability layers, assessed in Scoreboard 2, Norway has demonstrated a very good performance, with scores of 4 for all layers. However, there are areas where Norway could enhance its implementation of recommendations under Scoreboard 2, particularly in interoperability governance, integrated public service governance, and organisational interoperability. Specifically, Norway's score of 3 in Recommendation 22 (Interoperability governance layer) underscores the importance of public administrations adopting a structured, objective, and transparent approach when selecting standards and specifications, which could also be improved. Similarly, the overall score of 3 in Recommendation 25 (Integrated public service governance layer) indicates that improvements could be made in establishing necessary governance structures to ensure interoperability and coordination over time when operating and delivering integrated public services. Furthermore, the overall score of 3 in Recommendation 29 (Organisational interoperability layer), which highlights the necessity for public administrations to clarify and formalise organisational relationships for establishing and operating European public services, could also be enhanced. Nonetheless, it is worth noting that while greater efforts could be directed towards Recommendations 22, 25, and 29, the lower score of 3 does not have a detrimental impact on Norway's overall related indicators score.



Source: European Interoperability Framework Monitoring Mechanism 2023

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 all areas. The only possible improvement concerns the catalogues indicator, and more specifically KPI 71, which

currently scores 3 under recommendation 44, highlighting the importance of using common models/standards/specifications to describe catalogues of public services, public data and interoperability solutions.



Source: European Interoperability Framework Monitoring Mechanism 2023

The results of Norway concerning Cross-border Interoperability in Scoreboard show a good performance of the country in several indicators. Compared to 2022, Principle 10 (Cross-border Administrative Simplification) has shown improvement to above the European average, particularly in simplifying processes and utilising digital channels whenever appropriate for the delivery of European public services (Recommendation 17). However, there are still areas for improvement. For example, efforts could be directed towards developing a shared infrastructure of reusable services and information sources accessible to all public administrations (Internal Information Sources and Services – Recommendation 36) to align with the EU average. Moreover, there is potential for improvement by focusing on utilising information systems and technical architectures that accommodate multilingualism when establishing European public services (Principle 9 - Multilingualism – Recommendation 16). Additionally, compared to the previous year, there is no available information to evaluate Principle 7 (Cross-border Inclusion and Accessibility).

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](#)
- [Repository of good practices on the EIF implementation](#)



2. Digital transformation of public administrations

Main Digital Strategies, Action Plans and Legislations

Digital Agenda for Norway – ICT for a Simpler Everyday Life and Increased Productivity

In the parliamentary year 2015–2016, the Norwegian government adopted the Digital Agenda for Norway, an ICT strategy, as set forth in the Digitalisation white paper Meld. St. 27 (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 need 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.

White Paper on an Innovative Public Sector

In July 2020, the Norwegian government presented the *White Paper on Innovation in the Public Sector* (Report. St. 30 (2019–2020)) to the Norwegian Parliament (*Stortinget*). The document analyses the present situation and addresses the developments in this field and the need for change as well as the government's policy to promote innovation in the public sector. To achieve the goal of fostering public sector innovation, the government has developed three principles:



- Politicians and public authorities need to ensure freedom of action and provide incentives for innovation;
- Leaders must develop a culture of innovation and promote the necessary skills, so that people feel empowered to think differently and learn from mistakes and successes; and
- Public agencies must seek new forms of collaboration.

With its 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 to developing new business models in the public sector in the long run.

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 Digital Public Goods (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 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.

Public Administration Act

The [Public Administration Act](#) sets out the procedure for 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 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 of Internal Processes

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).

Digitalisation Supporting the EU Green Deal

No particular initiatives in this field have been reported to date.



3. Interoperability and data

Interoperability Framework



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.



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.



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.

Data Access, Management and Reuse



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.



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.



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, thereby strengthening 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 reuse of public information.

 **Reuse 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.

 **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 adapted to the Norwegian context through the Agency’s cooperation with public and private sector enterprises.

Open Data

 **White Paper on Data as a Resource**

In March 2021, the Norwegian government presented the White Paper on [Data as a Resource – Data-driven Economy and Innovation \(Report St. 22 \(2020–2021\)\)](#). 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.

Base Registries

The following table lists the Norwegian base registries:

National	
Business and Tax	<p>The Norwegian Tax Administration is responsible for the tax registries. There is currently no open portal to access the base registry.</p> <p>The Brønnøysund Register Centre contains information about businesses, associations and organisations. The portal allows checking, registering and changing information on businesses.</p>
Transportation / vehicles	<p>The Norwegian Public Roads Administration (NPRA) is responsible for the Registry of Motor Vehicle Information. The Vehicle Information Portal has information on vehicles and their owners.</p> <p>The Registry of Motor Vehicle Information is closely integrated with several registers and services. The most important ones are:</p> <ul style="list-style-type: none"> • The National Population Register and the Register of Legal Entities. Vehicle owner/holder information in the Motor Vehicle Register is continuously updated through these registers;



	<ul style="list-style-type: none"> • ID-porten, the common log-in solution for many Norwegian public services; • Altinn, the Norwegian authorities' joint solution for reporting and dialogue with business and industry. • Digipost; • Maskinporten (machine portal); • The Common Contact Register; • The Norwegian Tax Administration, responsible for the taxation of vehicles; • The Norwegian Customs, responsible for the import of goods; • The Police Register for Stolen or Lost Vehicles or Vehicle Documents (Elys); • The Schengen information system (SIS); • Nortype, which contains whole vehicle type approval data; • Insurance companies (TFFAuto); and • Eucaris, which enables the exchange of data for vehicles with other countries in Europe. <p>The NPRA has a self-developed delivery platform based on Kubernetes and Jenkins for build and deployment. The technologies used are mainly Java, Spring Boot, Hibernate, TypeScript, React JS, and Oracle DB. As to communication, the main data formats are JSON (REST) and XML (SOAP), whereas for storage it is mainly Oracle SQL, together with ElasticSearch.</p> <p>NPRA has clear and unambiguous processes for the creation and management of data elements for the entire product range for vehicles, which ensures that both IT technical and professional requirements and legislation are followed. Ownership and responsibility for each register and system are covered by flexible, independent and interdisciplinary product development teams, with their own developers, professional resources, product owners, team leads, testers, etc. In addition, there is also a product area management team that is responsible for the whole vehicle area.</p>
<p>Land</p>	<p>The Law on Land Registration and the Law on Cadastre regulate the operation of the Land Registry and of the Cadastre. The former refers to the Land Registry Authorities and all the information regarding the registration procedure, whereas the latter regulates the maintenance, access, collection and processing of data, public fees, sanctions and fines related to the Cadastre. While no former definition of land registry exists, the Law on Cadastre defines the cadastre as “the country's official registry of real estate properties, residential buildings and addresses”.</p> <p>The Norwegian Mapping Authority is responsible for the Land Registry and the Cadastre. The Land Registry, which serves 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.</p>
<p>Population</p>	<p>The Population Registry Act is divided into six different chapters:</p> <ul style="list-style-type: none"> • 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. <p>The act describes the Population Registry as a central national registry, which includes records of persons, who are or have been residents of Norway, who</p>



	<p>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. This information is registered in the National Population Register (Folkeregisteret) and is overseen by the Directorate of Taxes (<i>Skattedirektoratet</i>). Information from the register (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. Applications for information from the National Registry are processed by local Tax Assessment Offices and the Office of the National Register.</p>
<p>Other</p>	<ul style="list-style-type: none"> • 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. • 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.
<p>Sub-national</p>	
<p>Base Registries</p>	<p>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.</p>

 **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. 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.

 **Altinn**

A common technical platform, called [Altinn](#), has been 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 or 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, thus extending further



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.

Data Platforms and Portals

The following table lists the Norwegian data platforms and portals infrastructures:

<p>Norge.no Portal</p>	<p>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.</p> <p>The portal also has information about digital communication between public authorities and citizens. Furthermore, Norge.no presents citizens with information about the Norwegian public sector’s digital mailbox and the Digital Contact Information Register.</p> <p>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.</p> <p>The Norge.no Portal is a portal of services both at the State, regional and local levels.</p>
<p>Standardisation Portal</p>	<p>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.</p>
<p>GeoNorge Portal</p>	<p>The GeoNorge Portal is the national portal for the ‘Norway Digital’ geospatial infrastructure. It is the largest open, standards-based eGovernment component used daily 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.</p> <p>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.</p>



<p>National Data Catalogue - Data Norway</p>	<p>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 reuse 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.</p>
<p>eInnsyn</p>	<p>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.</p>
<p>National Archival Services of Norway</p>	<p>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.</p>
<p>Norway Digital Programme</p>	<p>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.</p>
<p>Municipal Data Lakes</p>	<p>The city of Bergen was one of the first municipalities to establish a data lake. To this end, the Bergen municipality is partnering with the consultancy Bouvet. The project ensures the sharing and reusing of data across divisions in the municipality, and facilitates 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.</p>
<p>Test Norway</p>	<p>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.</p>

Cross-border Infrastructures

The following table lists the European cross-border infrastructures of which Norway is part of:

European Business Registry	The Brønnøysund Register Centre is a member of the European Business Registry .
EUCARIS	Norway is a member of the European Car and Driving Licence Information System (EUCARIS) and provides vehicle and driving licence information on the basis of the EUCARIS Treaty and RESPER (the third Driving Licence Directive, 2006/126/EU). Currently Norway is working on the implementation of the information exchange via the EUCARIS technology based on: <ul style="list-style-type: none"> ▪ the EU Prüm Council Decisions (2008/615/JHA and 2008/616/JHA) ▪ the Road Safety Directive (2015/413/EU) The Ministry of Transport and Communications has overall responsibility for the framework conditions applying to postal and telecommunications activities, the civil aviation, public roads and rail transport sector, ferry services forming part of the national road system, coastal management, the marine environment and port and sea transport policies.
TESTA	Norway is part of the Trans European Services for Telematics between Administrations (TESTA) network service, which provides data exchange between European public administrations with guaranteed performance and a high level of security. Currently, there are ten connected administrations in Norway.
EESSI	Norway also makes use of the Electronic Exchange of Social Security Information (EESSI) via the node run by the Norwegian Labour and Welfare Administration (NAV). EESSI enables social security bodies across Europe to exchange information more rapidly and securely.
TOOP-Project & NMA	The Brønnøysund Register Centre also participated in the TOOP-project (Once-Only principle) alongside the Norwegian Maritime Authority (NMA) .
Horizon Europe & EU4Health	Norway currently also participates in the Horizon Europe and the EU4Health programmes. The Research Council of Norway , Innovation Norway , the Norwegian Digitalisation Agency and the Norwegian Directorate of Health are the national agencies responsible for coordinating Norway's participation in these programmes.
EULIS	Norway is a member of the EU initiative for a European Land Information Service (EULIS).
INSPIRE	Norway is a member of the EU initiative for an Infrastructure for Spatial Information in Europe (INSPIRE).
CEF and ISA ²	Norway is also an active contributor to the Connecting Europe Facility (CEF) and the ISA² Programme . These initiatives will contribute to new actions within the EU Programme 'Digital Europe' for the years 2021–2027.
Nordic Cross-Border Digital Services	Norway closely cooperates 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 the Nordic Council of Minister's programme 'Cross-Border Digital Services' (CBDS). Within this programme, Norway leads the Nordic-Baltic eID Project (NOBID) , which aims at enabling access to national digital services to users from the Nordic and Baltic countries by facilitating the exchange and verification of electronic IDs, based on the eIDAS Regulation .
Nordic Smart Government and Business	Norway is also a member of the Nordic Smart Government and Business Programme . The programme is an instrument for the Nordic Council of Ministers to create a platform for transactional reporting of business data for small and medium enterprises. The goal is to reduce, or even eliminate, the



	need for reporting and facilitate B2B use of information. The success of the programme's solutions relies on extensive access to base registries.
EBSI	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) .



Nordisk eTax

The Tax Authorities of Denmark, Iceland, Norway, Finland and Sweden are connected to and operate on 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. Digital transformation of public services



Digital Public Services for Citizens



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 partners in the framework of development cooperation to make use of digital technologies.

eInvoicing



eInvoicing Legislation

B2B eInvoicing has been mandatory for central government entities in Norway since 2011. In 2019, new legislation was 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*).



EHF

Norway uses a standard for electronic invoicing and credit notes called EHF (*Elektronisk Handelsformat*). 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.

eHealth and Social Security



National Strategy for eHealth

The [National eHealth Strategy](#) is the health and care sector's joint strategy for digitalization. It shall contribute to a sustainable and innovative sector, which delivers coherent health and care services of excellent quality. In addition to pursuing joint overall priorities and political goals, the strategy aims to contribute to an increased implementation capacity in the eHealth area. It covers the time frame from 2023 to 2030 and foresees five strategic objectives:

- Objective 1: Active participation in one's own health;
- Objective 2: Simpler working day;
- Objective 3: Health data for renewal and improvement;
- Objective 4: Available information and strengthened collaboration; and
- Objective 5: Cooperation and instruments that strengthen implementation.

Other Key Initiatives



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' of the digital economy and of an increasingly digitalised transport sector, which is why 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.

Strategy for a 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 was announced by the Minister of Research and Higher Education in September 2021. The new Digital Transformation Strategy replaces the Digitisation Strategy for the University and College Sector 2017–2021.

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. One of its main targets is increasing the availability of user-oriented environmental information and data that are reliable, open and free-of-charge.

Altinn Portal

The **Altinn Portal**, which has been redesigned to improve the users' experience, offers seamless services to ease the reporting burden imposed by government agencies. It is a solution allowing to develop and maintain forms and work processes, and to facilitate reporting through a smoother 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.

Archival Act

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 future reference. The act provides rules for archiving within the public administration, including electronic archiving.

Digital Public Services for Businesses

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.

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](#).

Public Procurement

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.

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.

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

The 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.

Digital Inclusion and Digital Skills

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 the overarching responsibility for coordinating national efforts to improve the population's digital competence.
- The strategy has the following 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).



MR DIGITAL's Digital North 2.0

In joint cooperation with other Nordic and Baltic countries, the Ministerial Council for Digitalisation (MR DIGITAL) has set the policy goal of promoting digital inclusion, empowerment, and equality, through the [MR DIGITAL's Digital North 2.0](#). A roadmap has been created for the implementation of Digital North 2.0, which lays out the content of MR DIGITAL's work in 2021–2024. One of the main goals is to identify and establish a shared baseline for monitoring digital inclusion within the Nordic-Baltic region, which is supported by the workstream 'monitoring digital inclusion and promoting a fair and secure data-economy'.



Flexible and Decentralised Education at Vocational Colleges, University Colleges and Universities

In the autumn of 2021, the Norwegian Government also presented a new [digitalisation strategy](#) for the university and university college sector. The Norwegian Government is seeking to open up more the education system. The goal is for education at vocational colleges, university colleges and universities to be available to all, regardless of where you reside in the country and what your current life situation is. The purpose of this strategy is to increase access to flexible and decentralised high-quality education programmes that are adapted to the various needs of the work force as a whole and of individuals.

This strategy is part of the Norwegian government's long-term efforts to make education more accessible to people, regardless of their place of residence or phase of life.

This strategy includes the Skills Programme, which among other objectives, has the goal to improve access to skills by enterprises that need to digitalise their business, improve digital skills for individuals and increase cooperation between educational institutions and businesses on the development of such continuing education programmes.



5. Trust and Cybersecurity

eID and Trust Services



New Strategy for eID

The Ministry of Local Government and Regional Development has published a [new Strategy for Electronic Identification \(eID\)](#) in 2023. 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](#).



eIDAS Regulation

[Regulation \(EU\) No. 910/2014 \(eIDAS Regulation\)](#) is a European legal act setting rules for a 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 transposition into [Norwegian law](#) came 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.



MinID

MinID allows citizens to access public services that require a medium-high level of security. Examples of such services include: (i) applying for a loan from the Norwegian State Educational Loan Fund; (ii) applying to upper secondary school; (iii) changing a tax return; (iv) changing a family doctor; and (v) 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. It falls within the responsibility of 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 the 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 sensitive services, related to personal 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. The Norwegian Digitalisation Agency is in charge of its coordination.

Cybersecurity



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: (i) preventive cybersecurity; (ii) cybersecurity in critical societal functions; (iii) competence; (iv) detection and handling of cyberattacks; and (v) cybercrime prevention and combat. It also 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.



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 on 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.



6. Innovative technologies

Artificial Intelligence (AI)



National follow-up on Artificial Intelligence

After the European Commission came up with its proposal on a legal framework for artificial intelligence (the so-called AI Act), several debates arose in professional circles in Norway. The regulatory proposal follows a risk-based approach as reflected in the EU Commission's call for harmonized standards. The Norwegian Digitalisation Agency (DigDir) closely follows the work on regulations and standardization, both regionally and nationally. This follow-up to the regulatory proposal could conceivably have an impact on the National Strategy for Artificial Intelligence. In 2023, the DigDir announced that the [Norwegian Guidance on Artificial Intelligence](#) would go into open beta testing. The guidance provides material on the responsible development and use of artificial intelligence (AI) in the public sector, as well as an overview of AI projects in the public sector.



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.

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 in the following areas:

- 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 to offer better services 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;
- Pursuing the objective that infrastructure, hardware, software and data-- all of which are central to the use of AI-- be based on standards and enable interoperability, privacy, security, trust, good usability, and portability;
- Ensuring that AI gets a prominent place in the European discussion and in the 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.

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.

Norwegian EBSI node

Norway is contributing to the [European Blockchain Services Infrastructure \(EBSI\)](#) network by establishing two EBSI nodes. During 2023, the University of Oslo (UiO Blockchain Lab) deployed a node in the EBSI pilot environment. Pre-production and production environments will be established with the support of the Digital Europe Programme. The University of Oslo participates in the EB-SINE consortium together with Digdir and Smart Innovation Norway. Additionally, the Norwegian University of Science and Technology (NTNU) will deploy an EBSI node, which is a required delivery for all participants in the TRACE4EU consortium.

Further European Collaboration

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

There are also several Norwegian initiatives concerning blockchain for which further European collaboration could be fruitful, such as the Shareholder Register and the Central Bank Digital Currency.

In 2024, Norway is still a member of the European Blockchain Partnership but so far it has not joined the EBSI EDIC unlike several EU member States.

Big data

Powered by Nature – Norway as a Data Centre Nation

The Norwegian government wants Norway to be an attractive nation for data centres and other data-centric industries. To this aim, in February 2018 the Ministry of Trade and Industry published 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 is bound to be a key element of future government policies and priorities.

Norwegian Data Centre – Sustainable, Digital Powerhouses

The Norwegian 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 plans 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, the Ministry of Local Government and Modernisation tasked Vivento and Agenda Kaupang to prepare the report titled 'Review and Assessment of Big Data in the Public Sector'.

Cloud & edge 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 worked on a concept selection study for a national cloud, which was delivered the summer of 2023.

Altinn Platform

No national infrastructure has been adopted in this field to date. However, Norway makes use of the national platform [Altinn](#) to develop digital services as a cloud service. The Norwegian National Security Authority (NSM) is currently assessing whether to develop a national cloud.

Internet-of-Things (IoT)

White Paper on Our Common Digital Foundation

The [White Paper on Our Common Digital Foundation](#) (Report. St. 28 (2020–2021)) describes the future prospects and the need for a digital foundation for several areas, including the Internet of Things.

Quantum Computing

Sigma2

[Sigma2 AS](#) is responsible for providing and managing 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.

Gigabit and Wireless High-speed Networks

White Paper on Our Common Digital Foundation

In April 2021, the Norwegian government presented the [White Paper on Our Common Digital Foundation](#) (Report. St. 28 (2020–2021)) 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 a common access to the broadband and the further development and access to the 5G mobile network. The paper

describes the future prospects for several areas with a particular need for a digital foundation. These include 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.



Draft Strategy

In the White Paper on 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.

GovTech

No particular initiatives in this field have been reported to date.



7. 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.

National

Ministry of Digitalisation and Public Governance

The Ministry of Digitalisation and Public Governance is responsible for ICT and public administration policy, electronic communication, government employer policy, central government building and property management. It also has the administrative responsibility for county governors and for the work on the UN Sustainable Development Goals.

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, the third sector, and the general public. It is subordinate to the Ministry of Digitalisation and Public Governance.

The Norwegian Digitalisation Agency plays multiple roles, namely it acts 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.

The Norwegian Digitalisation Agency is also 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 Digitalisation and Public Governance is responsible for the work associated with policies concerning the prevalence of ICT in the public sector. It has an active, horizontal role in the implementation process as it is the main body responsible for initiating and administering policies related to ICT and eGovernment. The government has developed a programme to promote innovation and service design: Stimulab. Founded in 2016, [Stimulab](#) is jointly run by the Norwegian Digitalisation Agency and Design and Architecture Norway (DOGA), with a portfolio of 47 projects and counting. Its mission is to contribute to user-oriented experimentation and innovation in the public sector.

Government Administration Services

The [Government Administration Services \(DSS\)](#) is a government agency aimed at providing synergies 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 the [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 towards information security.

National Cybersecurity Centre

Norway established a [National Cybersecurity Centre](#) in 2019. The Centre has the national responsibility for cybersecurity, including national level ICT risk assessment. It brings together cybersecurity 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 and Use](#) 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 offers 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, namely 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 when 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.



Digital21

Digital21 was initiated by the Norwegian Ministry of Trade and Industry following the recommendations in the industrial report 'Industry – Greener, Smarter and More Innovative' (Meld. St. 27 (2016-2017)). 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 pursue common goals and apply 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.

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: (i) protecting municipal interests with respect to central authorities, suppliers and other interest groups; (ii) 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; and (iii) 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.

8. 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.

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).

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 Digital Services (DG DIGIT) and the Directorate General for Communications Networks, Content & Technology (DG CONNECT). This factsheet received valuable contribution from The Norwegian Digitalisation Agency with the help of external contributors; The Norwegian Tax Administration, The Brønnøysund Register Centre, The Norwegian Public Roads Administration, The Norwegian Mapping Authority and The Directorate of e-health.



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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