



European
Commission



Digital Public Administration factsheet 2020

European Union



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Executive Summary

Digital public administrations are today necessary to ensure fast and high-quality services for firms and citizens in Europe. This entails an increase in funding programmes and initiatives aimed at modernising public administrations through a coordinated approach, facilitating user-centricity and cross-border interoperability. In striving for digital leadership, the EU must focus on making markets work better for consumers, businesses and society as a whole, and it must support them in adapting and overcoming the challenges that globalisation and the digital transition will pose.

Thus, the aim of this factsheet is to become a prime source of information on all matters related to digital public administration and interoperability in the European Union, and to gather useful information on the main digital trends and developments in this field.

At the political level, the newest and main initiatives that will drive the digitalisation of the public sector in Europe are the [Shaping Europe's Digital Future strategy](#), the [White Paper on Artificial Intelligence](#), the [Strategy for a sustainable and digital Europe](#), the [Action Plan for better implementation and enforcement of single market rules](#), a new [Industrial Strategy for a globally competitive, green and digital Europe](#), and the [European Data Strategy](#). These initiatives are a key part of one of the European Commission's top priorities for 2019-2024 set out by Ursula van der Leyen in July 2019, [A Europe Fit for the Digital Age](#), and they build off initiatives from the Juncker Commission, including the [Digital Single Market](#) and the [EU eGovernment Action Plan 2016-2020](#).

In addition, the factsheet also provides information on the EU's main actors and institutions responsible for the coordination and implementation of Digital Public Administration services. As [Executive Vice-President-designate for a Europe fit for the Digital Ages](#) Ms. Vestager is the highest representative of the EU in charge of ensuring that Europe fully grasps the potential of the digital age and strengthens its industry and innovation capacity. Ms. Vestager's work is supported by the Commissioner for Internal Market, Mr. Breton, and DG CNECT. Another key actor working to improve digitalisation and interoperability in public administrations is the [Directorate-General for Informatics](#) (DIGIT), whose role is to support Member States in the modernisation of their public administrations by promoting and facilitating interoperability so that European public administrations can work seamlessly and together across boundaries. Besides strategies and policy instruments, the European Commission also implements a number of legislative initiatives related to the modernisation of the public sector, which are detailed in the subsequent Legislative Instruments section of this factsheet.

The EU also provides funding instruments available to Member States, such as the [European Structural and Investments Funds \(ESIF\)](#), the [Connecting Europe Facility \(CEF\)](#) and [ISA² programmes](#), which are outlined in detail later in the document. These funding instruments, together with freely reusable solutions, significantly contribute to the public sector modernisation at national and regional levels. As part of the new [Multiannual Financial Framework for the period 2021-2027](#), the European Commission has proposed a new funding programme: the [Digital Europe Programme](#), whose goal will be to set up the strategic digital capacities of the EU and to promote a far-reaching deployment of new technologies, to be used by the EU's citizens and businesses.

Lastly, the EU also offers other support services such as peer-to-peer help, platforms to exchange best practices and practical guidance. The chapter on Digital Public Administration Services lists some one-stop shops aimed at simplifying the life of citizens, businesses and public administrations by providing them a single access point

with all the available information regarding the available services through one single channel.



1

Overview of the EU Profile

1 Profile

1.1 Basic data

Population (EU28): 513 471 676 (2019)

GDP at market prices (EU28): 16 452 065.5 million Euro (2019)

GDP per inhabitant in PPS (EU28): 101 (2019)

GDP growth rate (EU28): 1.5% (2019)

Inflation rate (EU28): 1.5% (2019)

Unemployment rate (EU28): 6.3% (2019)

General government gross debt (Percentage of GDP) (EU28): 79.3% (2019)

General government deficit/surplus (Percentage of GDP) (EU28): -0.8% (2019)

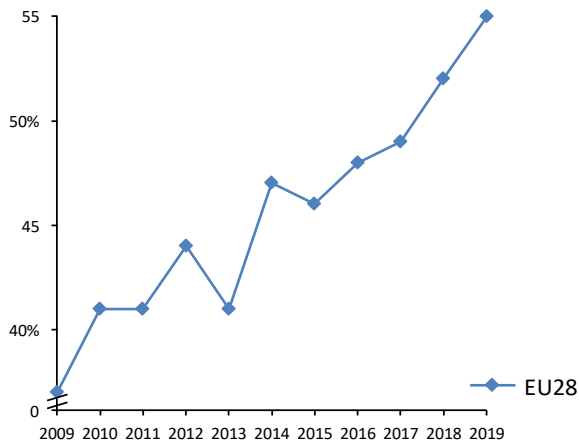
Area (EU28): 4 233 255 km²

Source: [Eurostat](#) (last update: 24 June 2020)

1.2 Digital Public Administration Indicators

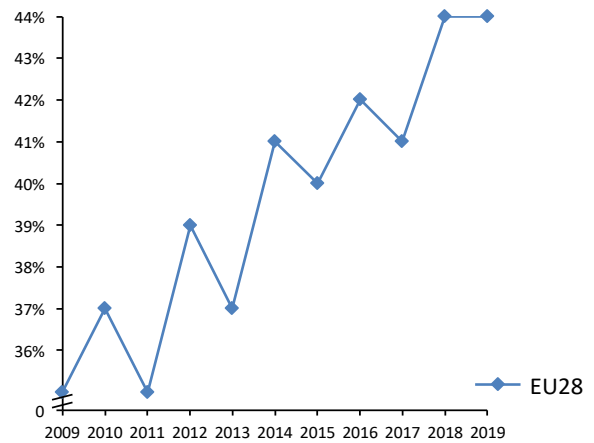
The following graphs present data for the latest Digital Public Administration Indicators in the European Union, as outlined by Eurostat at the time of this factsheet's preparation.

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



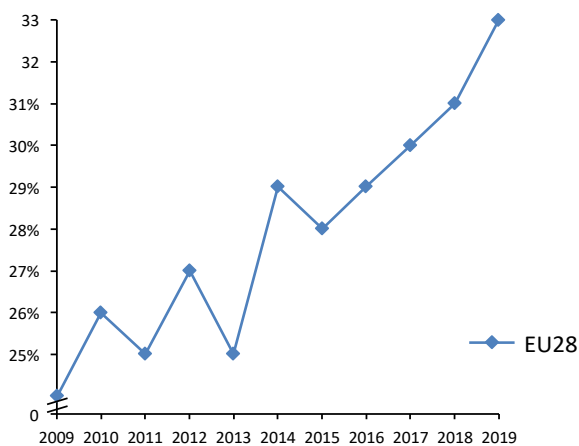
Source: Eurostat Information Society Indicators (2020)

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



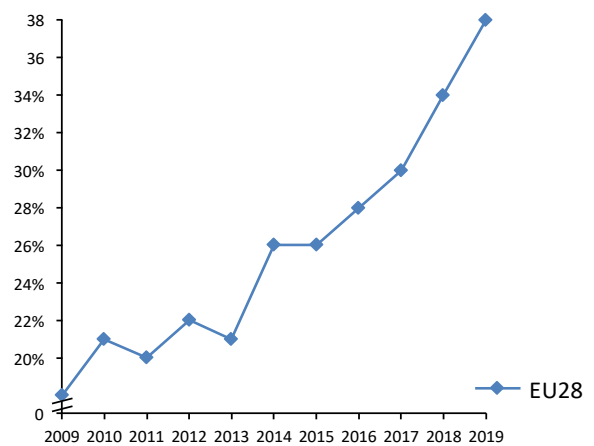
Source: Eurostat Information Society Indicators (2020)

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



Source: Eurostat Information Society Indicators (2020)

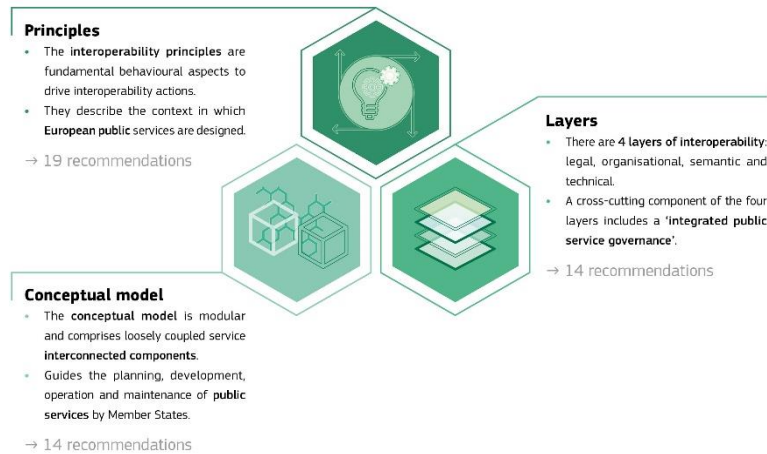
Percentage of individuals using the internet for sending filled forms to public authorities in EU



Source: Eurostat Information Society Indicators (2020)

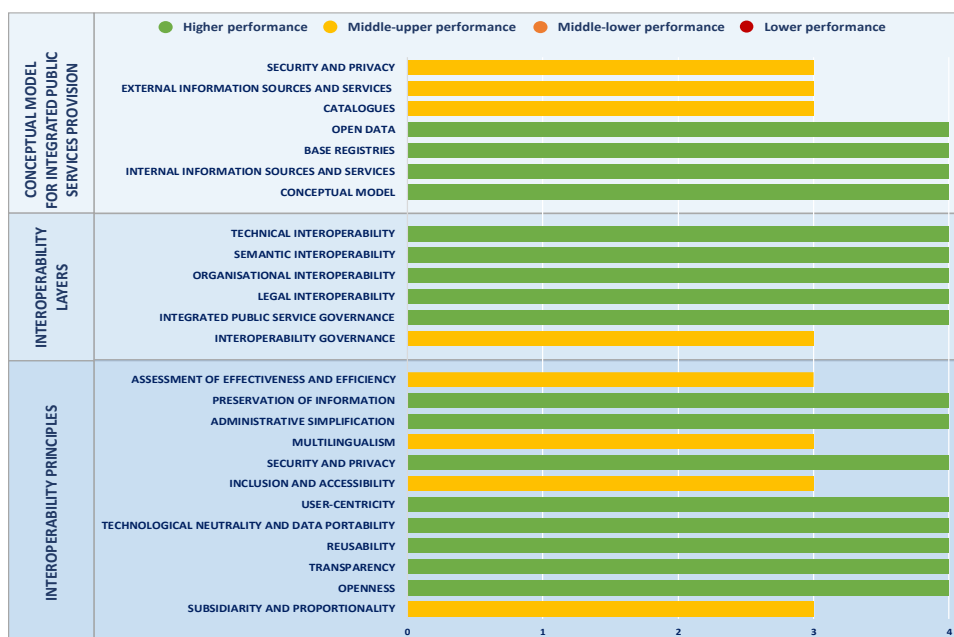
1.3 Interoperability State of Play

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



Source: European Interoperability Framework Monitoring Mechanism 2019

For each of the three pillars, a different scoreboard was created to breakdown the results into their main components (i.e. the 12 principles of interoperability, the interoperability layers and the components of the conceptual model). The components are evaluated on a scale from one to four, where one means a lower level of implementation, while 4 means a higher level of implementation. The graph below shows the average result of the first EIF Monitoring Mechanism data collection with the 27 Member States in 2019. It is possible to notice an overall good performance of the country, with particularly positive results within the second scoreboard (Interoperability layers).



Source: European Interoperability Framework Monitoring Mechanism 2019

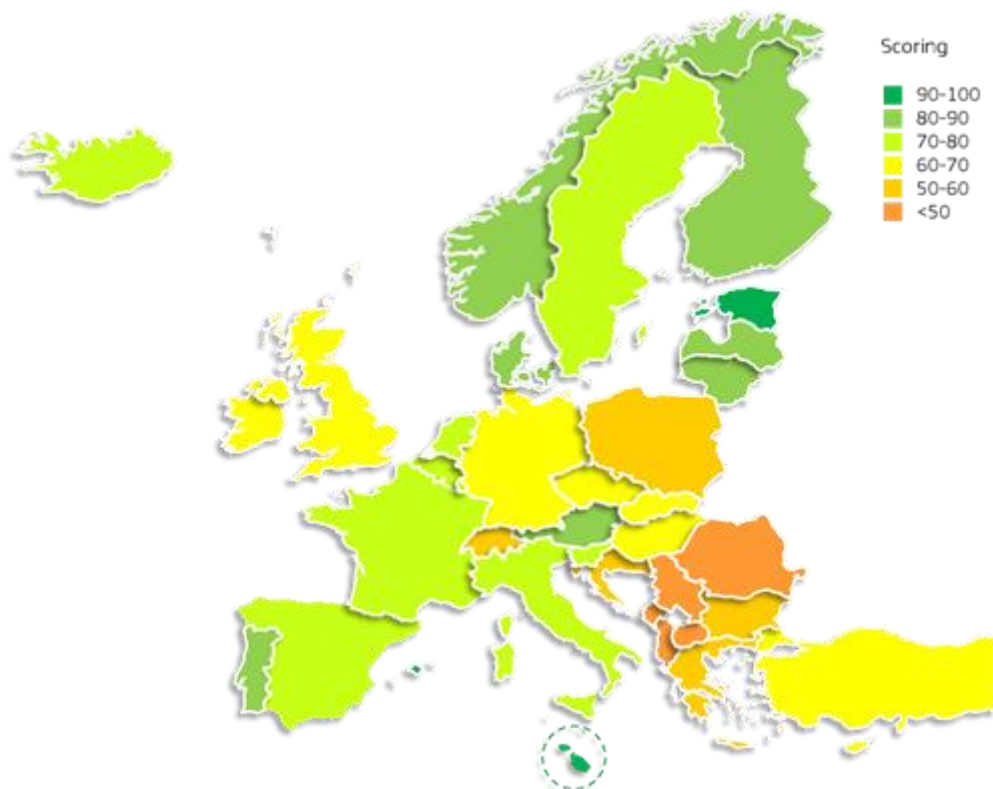
1.4 eGovernment State of Play

The graph below shows the results of the latest [eGovernment Benchmark](#) report, which monitors the development of eGovernment in Europe based on specific indicators. These indicators are clustered within four main top-level benchmarks:

- **User Centricity** – indicates to what extent (information about) a service is provided online and how this is perceived.
- **Transparency** – indicates to what extent governments are transparent regarding: i) their own responsibilities and performance, ii) the process of service delivery, and iii) personal data.
- **Cross-Border Mobility** – indicates to what extent EU citizens and businesses can use online services in another country.
- **Key Enablers** – indicates the extent to which four technical pre-conditions are available online. These are: Identification (eID), Electronic documents (eDocuments), Authoritative Sources, and Digital Post.

These top-level benchmarks are measured using a life-events (e.g. moving) approach. Eight life events are included in the overall eGovernment performance score, four of which were measured in 2013, 2015, 2017 and 2019, while the others were measured in 2012, 2014, 2016, and 2018.

As the graph shows, 18 EU countries (Austria, Belgium, Denmark, Estonia, Finland, France, Iceland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Portugal, Slovenia, Spain, Sweden) are delivering high-quality digital services with a score above 70%.



Source: eGovernment Benchmark Report 2020 Insight Report



2

Digital Public
Administration
Governance

2 Governance

2.1 Policy and Coordination

Executive Vice-President-designate for a Europe fit for the Digital Age

As Executive Vice-President-designate for a Europe fit for the Digital Ages Ms. Vestager has a dual function. She chairs the Commissioners' Group on a Europe fit for the Digital Age and, in addition, she is responsible for the competition portfolio. Her mission is to ensure all policy dimensions are fully considered. She is also accountable for the Secretariat-General and the Directorate-General for Competition.



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Commissioner-designate for Budget and Administration

As Commissioner-designate for Budget and Administration, Mr. Hahn is responsible for the DG for Budget, the DG for Human Resources and Security; the DG for Informatics (DIGIT); the DG for Translation and the DG for Interpretation. He will also be responsible for the Office for the Administration and Payment of Individual Entitlements; the Office for Infrastructure and Logistics in Brussels; the Office for Infrastructure and Logistics in Luxembourg; the European Personnel Selection Office; the Publications Office of the European Union and the European School of Administration. Respecting its investigative independence, he will also be responsible for the European Anti-Fraud Office. Mr. Hahn oversees implementing the full digitalisation of the Commission and ensures that staff acquire the necessary digital skills.



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Commissioner-designate for Internal Market

As Commissioner-designate for Internal Market, Mr. Breton is responsible of the new DG for Defence Industry and Space, as well as the DG for Communications Networks, Content and Technology and the DG for Internal Market, Industry, Entrepreneurship and SMEs. He works under the guidance of the Executive Vice-President for a Europe fit for the Digital Age.



Thierry Breton

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2.2 Implementation

Directorate-General for Informatics (DIGIT)

The mission of the Directorate-General for Informatics (DIGIT) is to deliver digital services, enabling the effective implementation of EU policies and to support the Commission's internal administration.

With this goal in mind, DIGIT, as a trusted partner has the responsibility to provide the EC, and whenever appropriate other European Institutions and bodies, with high quality and innovative

- Workplace solutions: creating new ways of working and collaborating for staff;
- Business solutions: delivering information systems supporting rationalised business processes within the framework of the corporate IT Governance strategy;
- Infrastructure solutions: providing reliable, cost-effective and secure infrastructure and services;
- Effective solutions: aligning IT investments with business priorities, facilitating relationships with our strategic partners, balancing risk with business value for the Institution.
- Support the modernisation of public administrations by promoting and facilitating interoperability so that European public administrations can work seamlessly and together across boundaries - Interoperability solutions.

The Directorate-General for Informatics is also accountable for the coordination of the eCommission strategy and its implementation via the delivery of IT systems and services. Moreover, through the ISA² programme, DIGIT facilitates the deployment of pan-European eGovernment services to administrations, citizens and enterprises/businesses. Finally, it is also responsible for developing the building blocks under the [Connecting Europe Facility](#) (CEF), a programme which offers basic capabilities that can be used in any European project to facilitate the delivery of digital public services across borders.



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DIGIT Unit D2 – Interoperability Unit

The Unit manages the execution of the programme on interoperability solutions and common frameworks for European public administrations, businesses and citizens (ISA² programme) as a means for modernising the public sector.

In the period 2005-2009, this objective was implemented under the IDABC programme on the Interoperable Delivery of European eGovernment Services to public Administrations, Businesses and Citizens. To achieve its objectives, IDABC issued recommendations, developed solutions and provided services that enabled national and European administrations to communicate electronically and offer modern public services to its businesses and citizens.

The follow-up programme ISA ran from 2010-2015. ISA was based on the experience gained from IDABC and its evaluations. It aimed at facilitating efficient and effective electronic cross-border and cross-sector interaction between European public administrations, and at enabling the delivery of digital public services through common solutions.

ISA² is the follow-up programme to ISA. ISA² started on 1 January 2016 and it runs until 31 December 2020. ISA² expands the scope of its predecessor, by explicitly including regional and local authorities, and providing a link to citizens and businesses. Furthermore, the programme will develop, maintain and promote a holistic approach to interoperability in the Union so as to eliminate the fragmentation of the current 'digital service provisioning' landscape, which constitutes a risk for accomplishing the Digital Single Market.

It is revised once a year, to reflect changes in policies or priorities. The Commission implements the ISA² work programme via public procurement procedures.

Directorate-General for Communications Networks, Content and Technology (CONNECT)

The mission of the Directorate-General for Communications Networks, Content and Technology (CONNECT) is to conceive and implement the policies required to create a digital single market to foster growth and employment. The aim is to enable citizens, businesses and public administrations to seamlessly and fairly access and provide digital goods, content and services.

CONNECT is thus responsible for fostering a modern, secure, open and pluralistic society and for helping drive the digital transformation of European industry and public services through the use of innovative digital technology, among others.



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DG CONNECT Unit H4 – eGovernment & Trust

The mission of the Unit is to advance the quality and innovation of public administrations and accelerate the large-scale public sector and private sector use of trusted identification and trust services in the digital single market.

The Unit promotes modernisation of public services to meet citizens' expectations regarding efficiency, quality, transparency, accountability, user centricity and inclusiveness.

Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs (GROW)

The mission of the Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs (GROW) is to enhance the European business environment by developing and carrying out the Commission's policies related to business and industry. The Directorate-General is also accountable for the Single market policies. With this goal in mind, GROW, as a trusted partner, has the responsibility to foster entrepreneurship and growth by reducing the administrative burden on small businesses and by facilitating access to funding for SMEs and to help turn the EU into a smart, more sustainable and inclusive economy.

DG GROW is also responsible for the implementation, by the end of 2020, of the **Single Digital Gateway**. It will facilitate online access to the information, administrative procedures and assistance services that citizens and businesses need to get active in another EU country. By the end of 2023, it is envisaged they will be able to perform several procedures in all EU Member States without any physical paperwork.



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Other DGs

Within the European Commission, individual Directorates-General are responsible for the implementation of IT solutions within the mandate of their respective competencies:

- **DG JUST** – for a modern judicial system;
- **DG EMPL** – for policy in the field of employment, social affairs and inclusion, which is a shared competence between the EU and its member countries;
- **DG REGIO** – for strengthening economic, social and territorial cohesion by reducing disparities between regional and national levels of development in the European Union.
- **DG REFORM** – for providing tailor-made support to all EU countries for their institutional, administrative and growth-enhancing reforms.

2.3 Audit/Assurance

Internal Audit Service (IAS) of the European Commission

Operating under the responsibility of Mr. Frans Timmermans, First Vice-President, in charge of Better Regulation, Inter-Institutional Relations, the Rule of Law and the Charter of Fundamental Rights, the **Internal Audit Service (IAS)** is a core part of the internal audit system for the European Commission and EU agencies. The mission of the IAS is to provide independent, objective assurance and consulting services designed to add value and improve the operations of the European Commission.



3

Digital Public
Administration
Political Initiatives

3 Political Initiatives for Digital Public Administration in the European Union

3.1 Political initiatives on Digital Public Administration

This section aims to present the European Union's main political initiatives (e.g. strategies, frameworks and action plans) supporting the modernisation of the public administration through a coordinated approach, a common vision of public services, the increased provision of digital public services, achieving cross-border interoperability, and facilitating user centricity.

At the political level, the main initiatives driving public sector modernisation are the strategy on [Shaping Europe's Digital Future](#), the [White Paper on Artificial Intelligence](#), an [SME Strategy for a sustainable and digital Europe](#), [Action Plan for better implementation and enforcement of single market rules](#), a new [Industrial Strategy for a globally competitive, green and digital Europe](#), and the [European Data Strategy](#). These initiatives are a key part of the European Commission's priority for 2019-2024, [A Europe Fit for the Digital Age](#), and they build off initiatives from the Juncker Commission, including the [Digital Single Market](#) and the [EU eGovernment Action Plan 2016-2020](#). The latter visions and principles were confirmed in the [Tallinn Ministerial Declaration on eGovernment](#). The Declaration (6 October 2017) and the European Council Conclusion (19 October 2017) represented the highest level of commitment of Member States to build a Digital Europe and to make "e-government and the deployment of new technologies, accessibility, one-stop government and the once-only principle, and a digitalised public sector [...] key to transforming our societies and supporting the EU's four freedoms".

The Declaration built on previous initiatives such as the Council of the EU Conclusions on the [EU eGovernment Action Plan 2016-2020](#), and took note of the [statement](#) of national digital champions on eGovernment signed in Bratislava. The overall aim is to strive to be open, efficient and inclusive, providing borderless, interoperable, personalised, user-friendly, end-to-end digital public services to all citizens and businesses – at all levels of public administration.

Furthermore, within the annual European Semester process, the Commission and the Council publish Country Specific Recommendations and other official documents [online](#) addressing topics related to modernisation of public administration.

3.1.1 *Shaping Europe's Digital Future*

As part of the European Commission's priority for 2019-2024, [A Europe Fit for the Digital Age](#), President von der Leyen has repeatedly stressed the need for Europe to lead the transition to a new digital world. The substantive societal transformation that has occurred in recent years warrants a transformation of the way in which the European Union can best meet, and continue to meet, new risks and challenges posed by digital technology. [Shaping Europe's Digital Future](#) is the European Union's approach to this transformation. It based on the following three pillars, designed to ensure that Europe seizes the opportunities raised by digital transformation, while giving citizens, businesses and governments control:

- Technology that works for the people - investing in digital competences for all Europeans; further protecting people from cyber threats; and ensuring Artificial Intelligence is developed in ways that respect people's rights.
- A fair and competitive digital economy - enabling a vibrant community of innovative and fast-growing start-ups and SMEs to access finance and to expand; proposing a Digital Services Act to strengthen the responsibility of

online platforms; and ensuring that all companies compete in Europe on fair terms.

- Open, democratic and sustainable society - using technology to help Europe become climate-neutral by 2050; empowering citizens with better control and protection of their data; and creating a European health data space to foster targeted research, diagnosis and treatment.

On a global scale, the European Union will work to establish itself as a global role model for the digital economy by coordinating efforts between Member States, regions, civil society and the private sector. Furthermore, the Union will support developing economies transitioning to digital technologies and help to develop digital standards that can be promoted and referred to internationally.

3.1.2 *White Paper on Artificial Intelligence: a European approach to excellence and trust*

Published on 19 February 2020, the [White Paper on Artificial Intelligence](#) marks the first major publication as part of the European Union's goal of [Shaping Europe's Digital Future](#). The White Paper outlines the European Commission's proposed approach to the regulation of artificial intelligence, with the aim of promoting Europe's capacity to innovate in this field while simultaneously supporting the development and uptake of ethical and trustworthy artificial intelligence throughout the European Union. The White Paper proposes the following:

- Outlining measures that will help to streamline research, increase financial investment into the development and deployment of artificial intelligence, and foster collaboration in this field between Member States.
- Strategizing potential policy options for a future EU regulatory framework determining the types of legal requirements that would apply to relevant actors.

There is a key focus on a risk-based approach, with the European Union arguing that regulatory requirements should be deemed as mandatory when dealing with "high-risk" applications, such as healthcare.

Additionally, the White Paper outlines proposed procedures for testing and certifying artificial intelligence applications, in order to ensure compliance with any new regulatory framework that is developed.

The White Paper is currently open to a [public consultation process](#). All European citizens, Member States and other relevant stakeholders are invited to participate in the consultation. The process will remain open until 31 May 2020.

3.1.3 *An SME Strategy for a sustainable and digital Europe*

The communication outlining an [SME Strategy for a sustainable and digital Europe](#), as published on 10 March 2020, sets out the strategy of the European Commission for helping SMEs lead the transition to climate neutrality and digital transformation. The Strategy forms part of an Industry Policy Package led by a Communication on a '[New Industrial Strategy for Europe](#)'. It puts forward several actions based on the following three pillars:

- Capacity-building and support for the transition to sustainability and digitalisation – Key actions include upgrading the Enterprise Europe Network; developing Digital Crash Courses for SME employees to improve their digital proficiency; launching a digital volunteers programme for citizens to share their digital competence with traditional businesses; updating the Skills Agenda for Europe; expanding the Digital Innovation Hubs; allocating at least EUR 300 million to encourage Green Deal innovations; and exploring the possibility of a

collaborative economy initiative for SMEs working in the field of short term accommodation rental services.

- Reducing regulatory burden and improving market access – Key actions include encouraging Member States to implement the Single Digital Gateway in an SME-friendly way; mobilising Member States behind an EU Start-up Nations Standard for sharing best practices; encouraging Member States to work on proposals for new regulatory sandboxes; launching a call for pioneer partnerships in border regions; launching a Space Entrepreneurship Initiative; enhancing SMEs access to third country markets; and extending the Erasmus for Young Entrepreneurs Global scheme, among other actions.
- Improving access to financing – Key actions include supporting Initial Public Offerings of SMEs under the InvestEU programme in 2021; introducing a risk/reward mechanism to boost venture capital funds through the ESCALAR initiative; launching a green tech investment initiative, a gender-smart initiative and a blockchain-based initiative; co-funding technology due diligence services; and simplifying state aid rules to make it easier for SMEs to benefit from combined national funds.

These actions will build upon on the existing policy framework and support programmes of the EU with regards to SMEs, such as the various SME support actions funded under the [Horizon 2020 Programme](#) and [European Structural and Investment Funds](#).

3.1.4 Action Plan for Better Implementation and Enforcement of Single Market Rules

As published on 10 March 2020, the [Action Plan for better implementation and enforcement of single market rules](#) aims to address the existing challenges with regards to implementation and enforcement of single market rules. The Strategy emphasises the core role that the single market has to play in the industrial transformation of the European Union, outlining 22 actions organised under 6 subcategories as follows:

- Increasing knowledge and awareness of single market rules – Key actions include developing a programme to provide more specific guidance tools for national authorities (1); improving access to information on rules and requirements for users (2); improving the compliance of products sold via online platforms (3); providing training sessions and exchanges of practice for national judges and legal practitioners (4); capacity building for national public administrations (5); and building the capacity of public procurement professionals and strengthening cooperation between national bodies (6).
- Improving the transposition, implementation and application of EU rules – Key actions include fostering a structured dialogue for better transposition of single market directives (7); and implementing a partnership for single market regulations (8).
- Making the best use of preventive mechanisms – Key actions include improving ex-ante assessments of restrictive regulations under the Proportionality Test Directive (9); streamlining the operation of the single market Transparency Directive (10); preventing new barriers to providing services in the single market (11); and unlocking the full potential of the notification mechanism under the e-commerce Directive (12).
- Detecting non-compliance inside the single market and at the external borders – Key actions include rationalising single market IT systems and setting-up a platform for online enforcement in the form of an e-enforcement lab (13); strengthening the fight against counterfeit and illegal products (14);

strengthening enforcement in the agri-food chain (15); and development of labelling and traceability systems (16).

- Strengthening enforcement on the ground – Key actions include developing an EU Product Compliance Network (17); and making SOLVIT the default tool for single market dispute resolution (18).
- Improving handling of infringement cases – Key actions include the better prioritisation of enforcement action (19); ensuring clarity and consistency in case handling (20); making better use of the EU Pilot system (21); and organising systematic periodic package meetings (22).

These actions seek to overcome a range of problems that arise when implementing and enforcing single market rules at both the European Union and national level. Through these actions, it is hoped that they will help the European Union to accelerate business growth and continue to provide consumers with the best choice, thus making the single market work for all citizens.

3.1.5 A new Industrial Strategy for a globally competitive, green and digital Europe

This strategy, as outlined in March 2020, forms the foundations of a future industrial policy that will aim to support the twin transitions, enhance Europe's strategic autonomy and increase the competitiveness of EU industries globally. The strategy was developed after identifying the three goals for the transformation of European industry, supporting SMEs and keeping Europe sustainable and competitive, as follows:

- A globally competitive and world-leading industry
- An industry that paves the way to climate-neutrality
- An industry shaping Europe's digital future

In order to reach these goals, the strategy outlines a nine-pronged approach, as follows:

- Creating certainty for industry through a deeper and more digital single market – Key measures include the implementation of the [Single Market Enforcement Action Plan](#), setting up a Single Market Enforcement Task Force, implementing the [SME Strategy for a sustainable and digital Europe](#), evaluating and reviewing EU competition rules, and working on a follow-up to the European Data Strategy, among others.
- Upholding a global level playing field – Key measures include a White Paper on an instrument on foreign subsidies, strengthening global rules on industrial subsidies, adopting the International Procurement Instrument, and outlining an Action Plan on the Customs Union.
- Supporting industry towards climate neutrality – Key measures include developing a strategy for smart sector integration and a Common European Energy data space, launching the Just Transition Platform, outlining an EU Strategy on Clean Steel and a Chemicals Strategy for Sustainability, reviewing the Trans-European Network Energy regulation, and developing an EU Strategy on Offshore Renewable Energy, among others.
- Building a more circular economy – Key measures include adopting the Circular Economy Action Plan, developing a New Regulatory Framework for Sustainable Batteries and an EU Strategy for Textiles, outlining a Circular Electronics Initiative, and generally empowering consumers to play an active role in the European Union's circular economy.

- Embedding a spirit of industrial innovation – Key measures including communication the Future of Research and Innovation and the European Research Area and launching Public Private Partnerships as part of the Horizon Europe programme.
- Skilling and reskilling – Key measures include updating the Skills Agenda for Europe, launching a European Pact for Skills, communicating a strategic framework on a European Education Area, developing a Digital Education Action Plan and implementing the EU Gender Strategy, as adopted in March 2020.
- Investing and financing the transition – Key measures include ensuring the adoption and implementation of the next long-term budget, developing new IPCEIs, reviewing state aid rules IPCEIs, outlining a renewed sustainable finance strategy and a new Digital Finance Strategy, and drafting an Action Plan on the Capital Markets Union.
- Reinforcing Europe’s industrial and strategic autonomy – Key measures include following-up on the 5G Communication and the Recommendation on cybersecurity of 5G networks, drafting an Action Plan on synergies between civil, defence and space industries, outlining a new EU pharmaceutical strategy, and drafting an Action Plan on Critical Raw Materials.
- A partnership approach to governance – Key measures include launching a new European Clean Hydrogen Alliance, conducting an analysis of industrial needs, identifying ecosystems needing a tailor-made approach, and launching an Industrial Forum.

This strategy has been designed so as to react to the technological and climate-related changes that industries throughout the European Union are facing. It is hoped that measures make Europe more competitive and enhance strategy autonomy through a shared commitment from the European Union, the Member States and regions, industry and SMEs.

3.1.6 European Data Strategy

The [European Data Strategy](#) communication, as published on 19 February 2020, outlines a vision of a genuine single market for data which tackles the problems that have been identified through various policy measures and funding. The strategy is based on four pillars, as follows:

- Cross-sectoral governance framework for data and access use – Key actions include proposing a legislative framework for the governance of common European data spaces; Enacting legislation on high-value data sets; Proposing a Data Act, where possible; and analysing the importance of data in the digital economy and reviewing the existing policy framework in this area.
- Investments in data and strengthening Europe’s capabilities and infrastructures for hosting, processing and using data, interoperability – Key actions include investing in a high-impact project on European data spaces; Signing a Memorandum of Understanding with Member States on cloud federation; Launching a European cloud services marketplace; and establishing an EU (self-)regulatory cloud rulebook.
- Empowering individuals, investing in skills and in SMEs – The key action of this pillar involves exploring the ways in which the portability right for individuals under Article 20 of the GDPR can be enhanced in order to give them more control over who can access and use machine-generated data.
- Common European data spaces in strategic sectors and domains of public interest – The key action of this pillar involves creating a framework designed

to measure data flows and estimate their economic value within Europe, and between Europe and other global actors.

The Data Strategy is currently open to a [public consultation process](#). All European citizens, Member States and other relevant stakeholders are invited to participate in the consultation. The process will remain open until 31 May 2020.

3.1.7 Digital Single Market Strategy for Europe

On 6 May 2015, the European Commission unveiled its detailed plans to create a strategy for implementing the [Digital Single Market](#).

The [Digital Single Market Strategy](#) has a multi-annual scope and is focused on key interdependent actions that can only be taken at EU level. The actions have been chosen for maximum impact, can be delivered during this Commission's mandate, and will be taken forward in line with [Better Regulation](#) principles. The Strategy is built on three pillars:

- Better access for consumers and businesses to online goods and services across Europe – this requires the rapid removal of key barriers to cross-border online activity.
- Creating the right conditions and level playing field for digital networks and services to flourish – this requires high-speed, secure and trustworthy infrastructures and content services, supported by the right regulatory conditions for investment, fair competition and a level playing field.
- Maximising the growth potential of our European Digital Economy – this requires investment in ICT infrastructures and technologies such as Cloud computing and Big Data, research and innovation to boost industrial competitiveness, as well as better public services, inclusiveness and skills.

The third pillar, 'Maximising the Growth Potential of our European Digital Economy', is of particular relevance for the area of eGovernment, as it includes the following actions for the Commission:

- Proposing a [European free flow of data initiative](#) to promote the free movement of data in the European Union and launching a European Cloud initiative covering certification of cloud services, the switching of cloud service providers and a 'research cloud'.
- Revising and extending the European Interoperability Framework, with the new [European Interoperability Framework](#) having been published on 23 March 2017.
- Supporting an inclusive digital society for citizens and presenting a new eGovernment Action Plan (see below) for the period of 2016 – 2020 aiming to (i) modernise public administration, (ii) achieve the digital internal market to deliver public services across borders; and (iii) engage with citizens and businesses in the design and the delivery of high quality services.

On 10 May 2017, the European Commission published the [mid-term review](#) of the Digital Single Market Strategy to ensure the strategy was being delivered in a timely and effective manner. By this date, the Commission had proposed all the initiatives listed in the Digital Single Market Strategy. The mid-term review identified three main areas where further actions were necessary to ensure a fair, open and secure digital environment:

1. Spurring the European data economy;
2. Jointly tackling growing cybersecurity challenges;
3. Promoting fairness and responsibility of online platforms.

3.1.8 EU eGovernment Action Plan 2016 - 2020

The European eGovernment Action Plan 2016 - 2020 was launched on 19 April 2016 as part of the Digital Market Strategy, with the aim of removing existing barriers to the Digital Single Market and preventing further fragmentation in the modernisation of public administrations.

Ahead of the publication of the new EU eGovernment Action Plan, a paper on the 'Vision for Public Services' was published. The [Vision for Public Services](#) outlined the long-term vision for a modern and open public sector and the way in which public services may be delivered in an open government setting using ICT.

The EU eGovernment Action Plan 2016 – 2020 aims to combine European, national and regional efforts to advance the modernisation of public administrations across the European Union. While Member States pursue their own strategies and activities, the current Action Plan sets out seven principles that forthcoming initiatives should observe in order to deliver significant benefits from eGovernment services. The achievement of these seven principles by the Member States is monitored and the results presented in the annual [eGovernment Benchmark Report](#). The seven principles guiding the eGovernment Action Plan are:

- **Digital by Default:** Public administrations should deliver services digitally (including machine readable information) whenever possible (while keeping other channels open for those who are disconnected by choice or necessity). In addition, public services should be delivered through a single contact point or a one-stop-shop and via different channels.
- **Once only principle:** Public administrations should ensure that citizens and businesses supply the same information to a public administration only once. Public administration offices must take action, if permitted to internally re-use this data, in due respect of data protection rules, to ensure that no additional burden falls on citizens and businesses.
- **Inclusiveness and accessibility:** Public administrations should design digital public services that are inclusive by default and cater for different needs such as those of the elderly and people with disabilities.
- **Openness & transparency:** Public administrations should share information and data among each other and enable citizens and businesses to access, control and correct their own data; enable users to monitor administrative processes; engage with stakeholders (such as businesses, researchers and non-profit organisations) in the design and delivery of services.
- **Cross-border by default:** Public administrations should make relevant digital public services available across borders to prevent further fragmentation and facilitate mobility within the Single Market.
- **Interoperability by default:** Public services should be designed to work seamlessly across the Single Market and across organisational silos.
- **Trustworthiness & Security:** All initiatives should go beyond mere compliance with the legal framework on personal data protection and privacy, and IT security. By integrating these elements in the design phase, public administrations will help to increase trust in and use of digital services.

The EU eGovernment Action Plan calls for the acceleration of the digital transformation of governments. At the heart of this urgency lies the unlocked potential of data. Data exchanges will help them to become more efficient and effective; opening up government data will help them create new services, jobs and growth; open data will allow them to engage with citizens in their decision-making process; and big data will allow them to make better informed decisions.

The Action Plan provides for a dynamic and flexible approach in this fast-changing environment. Beyond the actions identified in the Action Plan, further actions may be proposed either by the Commission or by stakeholders, including Member States. This is facilitated by an [online stakeholder engagement platform](#), which was launched in June 2016.

The Action Plan identified 20 concrete actions to accelerate the implementation of existing legislation and the related uptake of online public services, under the following policy priorities:

- Modernising public administration with ICT, using key digital enablers
Public administrations need to transform their back offices, to rethink and redesign existing procedures and services, and open their data and services to other administrations, and, as far as possible, to businesses and civil society. Digital public services should build on shared and reusable solutions and services based on agreed standards and technical specifications in order to reduce development costs and deployment times, and to increase interoperability.
- Enabling cross-border mobility with interoperable digital public services
Cross-border digital public services facilitate access to markets, increase confidence, and stimulate competition across the Single Market. Administrations should: help businesses to operate online across borders within the Single Market; simplify access to information under EU business and company laws; enable businesses to easily start doing business, expand and operate in other Member States through end-to-end public eServices.
- Facilitating digital interaction between administrations and citizens/businesses for high-quality public services
There is a promising potential to deliver high-quality public services by increasing the involvement of businesses, citizens, and researchers during the design and delivery phases, and by ensuring feedback for improvement where necessary. This ultimately helps to reduce red tape, make services easier to use, and lower delivery costs.

The first update to the EU eGovernment Action Plan 2016-2020, in the context of the Digital Single Market Midterm Review in May 2017, added five new actions to the Action Plan.

Main activities under the Action Plan involve:

- Accelerating the up-take of eID under eIDAS to effectively support the implementation of the digital-by-default principle in the public sector as well as to enable the fully digital provision of cross-border services;
- Adopt the Single Digital Gateway Regulation, including elements of the once-only-principle for cross-border services and benefitting from the results of the ongoing large-scale project [Digital Europe for All \(DE4A\)](#);
- Implementation of revised EIF to ensure cross-border interoperability;
- Catalogue of ICT standards for procurement;
- Call for the Commission services to digitally transform the EU administration processes;
- Making the eJustice Portal a one-stop shop for information on European justice issues;
- Establishing a single window for reporting purposes in maritime transport and digitalise transport eDocuments;

- Accelerating the deployment and take-up of the INSPIRE Directive data infrastructure;
- Completing the setup of the [Electronic Exchange of Social Security Information](#);
- Transforming the Commission's websites to support increasing user engagement and participation of citizens and businesses in EU programmes and policymaking.

Open Government

In recent years, there has been a paradigm shift from eGovernment that merely focused on efficiency and effectiveness to a digital government approach, whereby digital is an integral part of governments' modernisation efforts.

The [Open Government](#) approach helps to facilitate the transformation of public administrations to a system of digital governance by means of optimising process flows, opening up public sector data and services, and moving away from a silo mentality to a coordinated and collaborative approach. The approach is based on the principles of collaboration, transparency, and participation, functioning within an open governance framework. It is also about opening-up government processes and decisions in order to foster citizen engagement and trust.

By removing public administrations from individual silos and [opening up data](#), governments' can work on a cross-border basis in order to reduce costs, prevent duplication, increase efficiency and facilitate cross-border mobility. The opening of this data will allow other actors in public administrations to reuse government data and services, thus enabling the design of targeted - personalised, pro-active and location-based services and facilitating digital interaction between administrations and users. This ensures user-centricity of public services and fosters collaborative service creation.

An open government will support [ICT-enabled public sector innovation](#); improving the efficiency, effectiveness and quality of public services by introducing new processes, products, services and methods of delivery enabled by ICT. Indeed, while basic administrative services are the core of eGovernment, many new, location-based services can be created by governments, businesses, civil society, and other stakeholders using public administrations' open data, location data, and open services.

Local and Regional Dimension of the EU eGovernment Action Plan 2016-2020

Over 60% of decisions taken at the European level have a direct impact on municipalities, provinces, and regions and 70% to 80% of public investments in Europe are made by local and regional authorities. Those two figures alone are proof of the ever-increasing importance of [European local and regional government](#) in both our world's economy and the life of our citizens.

The EU eGovernment Action Plan recognises that essential legislation is now in place and that many technological solutions have been developed and tested. Future efforts must therefore focus on ensuring implementation, so that citizens and businesses can reap the benefits of the digital transformation. Local and regional administrations (LRAs) have an important role both in modernising administrations and services, and in taking responsibility for directly providing their residents with services that meet their expectations. Given their size and agility, they also serve as an excellent basis for innovation and thereby contribute to generating economic growth, by ensuring a business-friendly environment, enabling the flourishing of data-driven businesses or by encouraging market innovation.

At present, regional policy is delivered through cohesion funds through the European Structural and Investment Funds (ESIF) and includes 11 thematic objectives; two of which are highly relevant for eGovernment. (TO2 and TO11) (SEE ESIF section).

To support the LRAs, the Commission has prepared a [guide](#) to help them implement and find EU funding for eGovernment in line with the principles and priorities set out in the EU eGovernment Action Plan 2016-2020.

Cross-Border Regions

Cross-border regions - regions comprised of at least two different Member States lying directly on borders or adjacent to them – can work in tandem to tackle common challenges identified and exploit growth potential. In order to tackle the obstacles stemming from diverging national legislations, incompatible administrative processes, or a lack of common territorial planning, DG REGIO is working on a [Cross-Border Review](#), to highlight how cross-border regions could benefit from the cross-border digital public services and other key digital enablers of the Single Digital Market. Digital Market.

Once-Only Principle

The EU eGovernment Action Plan calls on public administrations to ensure that citizens and businesses only supply the same information once (Once-Only Principle or OOP) to a public administration for certain administrative procedures. Public administration offices commit, if permitted, to internally re-use this data, in due respect of data protection rules, so that no additional burden falls on citizens and businesses.

The regulatory proposal for the cross-border application of the OOP is contained in the [Single Digital Gateway Regulation](#).

In order to operationalise the OOP at EU level, the Commission has launched two projects:

- [SCOOP4C](#) focuses its efforts on the citizens' dimension of the OOP. The overall aim of the project is to investigate and discuss how co-creation and co-production in public service provisioning for citizens can be achieved by implementing the once-only principle.
- [TOOP](#) aims to explore and demonstrate the once-only principle across borders while focusing on business data. TOOP aims to enable better exchange of business-related data or documents with and between public administrations and reduce administrative burdens for both businesses and public administrations.

User-Centricity

Member States have committed to making their public administrations user-centric in the design and delivery of digital public services (see: Tallinn Ministerial Declaration on eGovernment) and to ensuring the consistent quality of user experiences as set out in the Annex [User-centricity principles for design and delivery of digital public services](#) of the declaration.

In order to support the implementation of this element of the Tallinn Declaration, efforts should be emphasised in the local and regional administrations that deliver a majority of public services and are often the main point of interaction between governments and citizens. For this, the Commission is proposing a Quality label for cities and regions to show compliance with the Tallinn user-centricity principles.

The Quality Label may reflect undertaking some or many of the wide scope of activities already existing. For instance, many cities are experimenting with

participatory budgeting, participatory urban planning, co-creation and eParticipation, and societal engagement tools, while others are focusing on personal data management and ensuring compliance with the General Data Protection Regulation, which came into force on 25 May 2018. Others again are focusing on reducing administrative burden and implementing citizen-centric eGovernment services, while ensuring that nobody is left behind in the digital transformation of government.

3.1.9 Digital Transition Partnership under the Urban Agenda for the EU

The Urban Agenda for the EU is an integrated and coordinated approach to deal with the urban dimension of EU and national policies and legislation. By focusing on concrete priority themes within dedicated Partnerships, the Urban Agenda seeks to improve the quality of life in urban areas.

Launched in 2016 with the Pact of Amsterdam, it represents a new multi-level working method promoting cooperation between Member States, cities, the European Commission and other stakeholders in order to stimulate growth, liveability and innovation in the cities of Europe and to identify and successfully tackle social challenges. It also focuses on the three pillars of EU policy making and implementation of Better regulation, Better funding and Better knowledge.

Digital Transition is a priority theme. In the Digital Transition Partnership, the creation of digital services to enhance the competitiveness of enterprises and improving the quality of life of people is at the core of the partnership's focus. The European Commission (DG REGIO and DG CNECT), Estonia, the cities of Oulu (FI) and Sofia (BG), and further partners (Member States, cities and stakeholders) worked together to develop an 'Urban Digital Transition' action plan.

A Digital Transition Action Plan was published in 2018 examining how to effectively implement the EU eGovernment Action Plan 2016-2020 at the local government level, as well as proposing new actions for cities/urban areas to be proposed in the future. One of the horizontal themes to be addressed is data and standardisation.

The Digital Transition Action Plan aims to achieve the following objectives with dedicated actions for each one:

- Generalise and diffuse digital skills to everybody:
 - Action 1: Mainstreaming EU Digital Competence Framework for citizens into daily use;
 - Action 2: Digital Neighbourhood Instrument; and
 - Action 3: Capacity-Building and Spreading of Pilots in Regions and Cities.
- Enable and implement citizen-centric e-government:
 - Action 4: Helping cities develop a user-centric eGovernment model; and
 - Action 5: Developing the Digital Economy and Society Index (DESI) at local level (DESI local).
- Provide value through free and fair access to open/public/personal data:
 - Action 6: Build a data taxonomy at a European level;
 - Action 7: Access and reuse of private sector data of general interest by the public authorities;
 - Action 8: Specify and monitoring of standardised Planned Land Use data for formal and informal urban planning participation processes; and
 - Action 9: MyData in digital transition – Elaboration of a European roadmap on 'mydata'.

- Accelerate and adopt digital emerging technologies in cities:
 - Action 10: Building innovation and dissemination accelerator;
 - Action 11: Support agile experimentation of emerging digital technologies; and
 - Action 12: Implementing the digital framework for emerging technologies within the digital infrastructure.
- Adopt business model thinking to drive urban digital transition:
 - Action 13: Co-creating a business model approach for cities; and
 - Action 14: Development of 5G regulation to enable local micro-operators in cities.
- Strengthen the ability for cities to act within the digital transition:
 - Action 15: Implementing Digital transition in European Cities.

3.1.10 *The Tallinn Ministerial Declaration on eGovernment*

The Tallinn Ministerial Declaration on eGovernment of 2017, henceforth referred to as the Tallinn Declaration, was preceded by the Malmö Declaration of and the launch of the EU eGovernment Action Plan 2016-2020. The Tallinn Declaration recognised that service-oriented, citizen-centric, reliable and innovative government at all levels is essential to develop a dynamic and productive European society. Since 2009, several key milestones have been achieved, such as eProcurement, the deployment of key cross-border services funded by the Connecting Europe Facility programme, and electronic identification (eID).

The Tallinn Declaration provided an important impetus for Member States and the Commission to continue investing in the modernisation of the public sector. By signing the document and re-enforcing their commitment to the EU eGovernment Action plan 2016-2010, Member States pledged that, by 2022, they will strive to:

- Implement the principles of digital-by-default, inclusiveness and accessibility;
- Implement the user-centricity principles for design and delivery of digital public services, as detailed in the Annex of the declaration;
- Implement the once only principle as mandatory for key public services and as an option for citizens and business;
- Implement the principle of trustworthiness and security by ensuring that the needs of security and privacy are taken into consideration when designing public services and ICT solutions and increasing the uptake of national eID schemes;
- Implement the principle of interoperability by default by designing national interoperability frameworks in line with the EIF.
- Implement the principle of openness and transparency by making it possible for citizens and businesses to better manage their personal data held by public administrations.

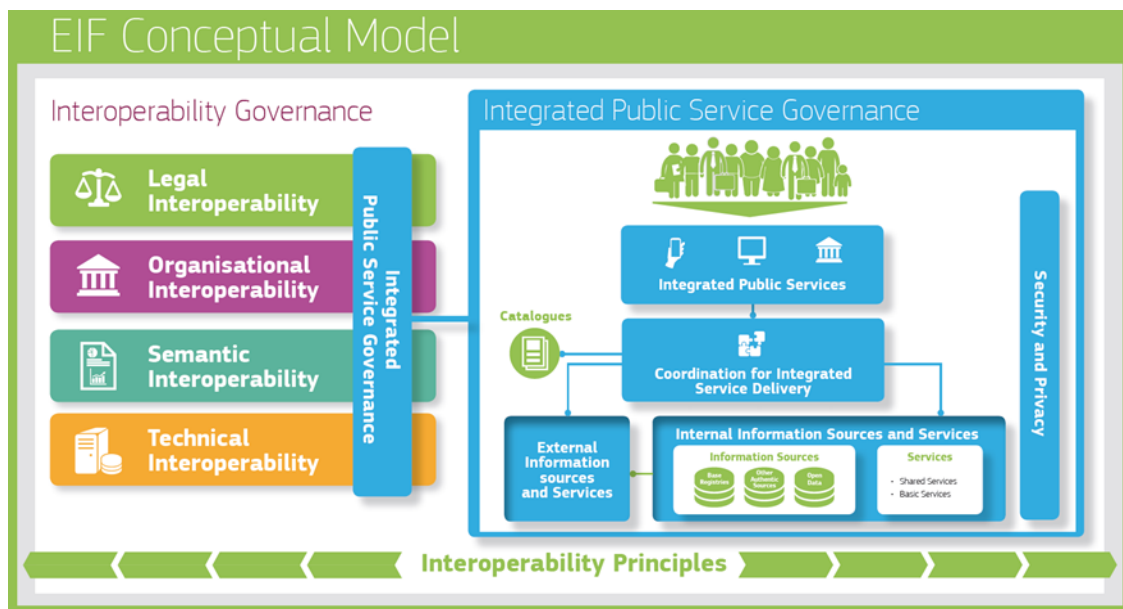
3.1.11 *Interoperability Action Plan supporting the implementation of the revised European Interoperability Framework*

The revised European Interoperability Framework (EIF), maintained under the ISA² Programme, was adopted on 23 March 2017. The framework provided specific guidance on how to set up interoperable digital public services. It offers public administrations a total of 47 concrete recommendations on how to improve

governance of their interoperability activities, establish cross-organisational relationships, streamline processes supporting end-to-end digital services, and ensure that both existing and new legislation do not compromise interoperability efforts.

The revised EIF is accompanied by the [Interoperability Action Plan](#), outlining priorities to support the implementation of the EIF. The Action Plan consists of 22 actions, grouped into five focus areas:

1. Ensuring governance, coordination and sharing of interoperability initiatives;
2. Developing interoperability solutions to foster collaboration between organisations;
3. Engaging stakeholders and raising awareness of interoperability;
4. Developing, maintaining and promoting key interoperability enablers;
5. Developing, improving and promoting supporting instruments for interoperability.



Source: ISA² programme

3.1.12 *European Commission Digital Strategy*

By 2022, the European Commission aims to become a digitally transformed, user-focused and data-driven administration. The European Commission's challenge in IT is two-fold: (i) the design, development and deployment of the next generation of mission-critical digital solutions; (ii) the modernisation of its legacy systems.

For this reason, the College adopted the [European Commission Digital Strategy](#) on 21 November 2018, the principles and objectives of which are based on the EU eGovernment Action Plan, the European Interoperability Framework and the Tallinn Declaration.

The objectives are as follows:

- To support the Commission's political priorities and activities with secure, state-of-the-art, digital solutions;
- To provide the Commission with high quality, trusted, borderless, digital public services, thus helping to implement its EU-wide policies, facilitating the free flow of data and boosting the digital single market;

- To enable the transformation of the Commission and maximise its role in policy-shaping by exploiting the potential of the Commission's data;
- To make the Commission a world-class 'open administration', a collaborative, innovative and agile institution in the service of the European Union;
- To ensure that the Commission's IT assets are secure, that unauthorised access or use of information is prevented and that the Institution is protected from cyberattacks;
- To guarantee the resilience of the Commission by ensuring the security, efficiency and effectiveness of its digital infrastructure and of its portfolio of digital services.

3.1.13 *Building a European Data Economy*

On 10 January 2017, the European Commission published a new [Communication on Building a European Data Economy](#). The Communication looked at proven or potential blockages to the free movement of data and presents options to remove unjustified and or disproportionate data location restrictions in the EU.

The Communication also considered the barriers around access to and transfer of non-personal machine-generated data, data liability, as well as issues related to the portability of non-personal data, interoperability and standards. Once the [proposal for a review of the Directive on the re-use of public sector information \(PSI Directive\)](#) is adopted, the scope will be enlarged to include more types of data eligible for re-use.

The Communication was accompanied by a [Staff Working Document](#).

3.1.14 *Digitising European Industry*

On 19 April 2016, the European Commission presented a set of measures to [Digitise European Industry](#) intended to help both large and small companies, researchers and public authorities to make the most of new technologies. They were formulated to link national and regional initiatives and boost investment through strategic partnerships and networks.

The purpose of this Communication was to reinforce the EU's competitiveness in digital technologies and to ensure that every industry in Europe can fully benefit from digital innovations.

Facilitated by a dynamic framework for coordination and experience-sharing between public and private initiatives at the EU, national and regional levels, the proposed actions are expected to mobilise close to EUR 50 billion of public and private investment in the next five years.

3.1.15 *European Cloud Initiative*

On 19 April 2016, the European Commission presented the [European Cloud Initiative](#), its blueprint for cloud-based services and world-class data infrastructure to ensure that scientists, businesses and public services reap the benefits of the Big Data revolution.

By bolstering and interconnecting existing research infrastructure, the Commission created a new European Open Science Cloud offering Europe's 1.7 million researchers and 70 million science and technology professionals a virtual environment to store, share and re-use their data across disciplines and borders.

This will be underpinned by the European Data Infrastructure, deploying high-bandwidth networks, large scale storage facilities and super-computer capacity necessary to effectively access and process large datasets stored in the cloud.

The European Cloud Initiative will make it easier for researchers and innovators to access and re-use data and will reduce the cost of data storage and high-performance analysis. This world-class infrastructure will ensure that Europe participates in the global race for high performance computing in line with its economic and knowledge potential.

The user base of the European Open Science Cloud and of the European Data Infrastructure will be widened to the public sector, for example through large-scale pilots involving eGovernment and public sector stakeholders and by progressively opening the European Data Infrastructure to users from industry and the public sector to achieve a European dimension.

As a result, the public will thus benefit from cheaper, faster, better and interconnected public services and from better policy making based on affordable and secure computing- and data-intensive services. Moreover, the European Open Science Cloud will ensure that public data is fully accessible and exploitable by scientists, policy makers and businesses.

3.1.16 *ICT Standardisation Priorities for the Digital Single Market*

The Commission adopted on 19 April 2016 a [Communication setting up ICT standardisation priorities for the Digital Single Market](#) as part of the package on [Digitising European Industry](#). The initiative aimed to re-energise the standard-setting system in Europe as a step towards industrial global leadership and digital innovation. The results of this plan were intended to ensure that European standards would be in place quickly enough to allow future devices to connect smoothly across the Digital Single Market.

The Commission identified the following priority areas: 5G communications, cloud computing, the internet of things (IoT), (big) data technologies and cybersecurity. These are the essential technology building blocks of the Digital Single Market. A regular review of the priorities was planned so as to respond to changes in technology and society.

Certain aspects of this priority plan also complemented and developed specific public sector requirements identified in the [revised](#) version of the European Interoperability Framework for European Public Services, taking on board the standardisation needs of the European public administrations.

Furthermore, as part of the eGovernment Action Plan, a catalogue of services for ICT procurement was put together. The European Catalogue will contribute to making procured solutions more interoperable and towards creating a more transparent public procurement market. The catalogue will serve as a one-stop-shop for procurement guidelines, including on vendor lock-in, on the use of standards, and a lifecycle costing scheme.

3.1.17 *Open Source Strategy 2014-2017*

The European Commission reviewed its internal [Open Source Software strategy](#). It addressed the procurement of open source software and the Commission's contribution to open source software projects. The strategy provided for more software developed within the Commission to be published as open source.

In March 2015, the [renewed strategy for internal use of open source software](#) in the Commission was published.

3.2 Other relevant EU political initiatives

3.2.1 A Strategy for eProcurement

eProcurement refers to the use of electronic communications by public sector organisations when buying supplies and services or tendering public works.

By increasing the use of eProcurement, the European Union can generate significant savings for taxpayers. These savings would maximise the efficiency of public spending in the current context of fiscal constraints. eProcurement can also provide a new source of economic growth and jobs, including by facilitating access to public procurement contracts by SMEs.

In April 2012, the European Commission adopted Communication [COM\(2012\) 179](#) setting out a strategy to make the use of eProcurement mandatory in the EU by mid-2016. This state of implementation of this strategy was evaluated as part of the European Commission's Communication [COM\(2013\) 453](#) that was adopted in June 2013.

Furthermore, as part of the eGovernment Action Plan 2016-2020, the Commission will support Member States' transition towards end-to-end eProcurement and their use of contract registers and interoperable eSignatures. Another core objective of the eGovernment Action Plan was to ensure that companies anywhere in the EU could bid for public procurement contracts electronically by 2018.

3.2.2 European Cloud Computing Strategy

In September 2012, the European Commission adopted a strategy for [Unleashing the Potential of Cloud Computing in Europe](#). The strategy outlined actions to create 2.5 million new jobs and boost the EU's GDP by EUR 160 billion per annum by 2020. The strategy was designed to maximise the potential of cloud computing across all economic sectors. This firm political commitment from the Commission served as a call on all stakeholders to participate in implementing these actions. Dedicated [working groups](#) were created to work on this.

On 27 December 2014, the European Commission published its first Call for Tender for a Cloud Service. Cloud services offer benefits in terms of infrastructure elasticity and scalability while favouring the pay-per-use model against upfront capital investments. The Cloud has enabled the Commission to keep up with the pace of today's technological race among infrastructure providers. Depending on their security and data qualification, information systems can be deployed either in a Private Cloud operated for the Commission and EU institutions only, or in the Public Cloud operated for external customers too.

3.2.3 European Multi-Stakeholder Platform on ICT Standardisation

The European Multi Stakeholder Platform (MSP) on ICT standardisation was set up at the end of 2011. Based on the [European Commission Decision 2011/EC 349/04](#), it dealt with:

- Potential future ICT standardisation needs in support of European legislation, policies and public procurement;
- [Technical specifications](#) for public procurements developed by global ICT standards-developing organisations;
- Cooperation between ICT standards-setting organisations;
- [The Rolling Plan](#), which provides a multi-annual overview of the needs for preliminary or complementary ICT standardisation activities in support of the EU policy activities.

The MSP is composed of representatives of national authorities from EU Member States & EFTA countries, European and international ICT standardisation bodies, and stakeholder organisations that represent industry, small and medium-sized enterprises, and consumers. It is co-chaired by the European Commission Directorates General GROWTH, and CONNECT. It meets four times per year.

3.2.4 Common Assessment Model Standards and Specifications (CAMSS)

CAMSS aims at promoting collaboration between public administrations through a Common Assessment Method for Standards and Specifications.

This helps to expand interoperability between EU Member States through the sharing of information and knowledge, and the alignment of national processes by using CAMSS. It also aims to speed up the assessment processes, reduce their cost throughout European public administrations and avoid ICT vendor specific lock-in.

The main objective of CAMSS is to become the method of reference for the assessment of technical specifications and standards in the field of ICT, helping to promote transparency regarding selection procedures for eGovernment solutions and standards, and increasing the sharing and reuse of eGovernment projects.

The CAMSS toolkit consists of:

- A documented reference assessment process;
- A set of quality requirements (criteria);
- Assessment tools: online and offline (also in open source);
- The collection of assessments performed with the method;
- A list of standards which compiles standards and specifications (recommended and mandatory) that are included in national lists.

CAMSS is supported through ISA² Action 2016.27.

3.2.5 Interoperability Maturity Assessment of a Public Service (IMAPS)

Nowadays, public administrations can no longer exist in isolation. They must interact with many other administrative bodies, often across borders and sectors, and share and utilise services, data, and business processes with them. In other words, they must be interoperable.

The IMAPS (Interoperability Maturity Assessment of a Public Service) is a self-assessment tool that will evaluate and ultimately improve European public service interoperability maturity. It currently consists of:

- A compact and user-friendly self-assessment. The 30-minute questionnaire looks at the context of the public service, how the service is delivered, how it consumes existing services and how it is managed.
- On completion of the IMAPS, the Results Output will offer tailored recommendations and confidential improvement guidance.

The IMAPS is designed to help public service owners (i.e. those in charge of key services such as online tax filing, online business registration, online change of address, etc. – no matter at what government level: national, regional, local, international) evaluate, improve and consider all key interoperability aspects of their public service.

3.2.6 EU Catalogue of Standards for ICT Procurement

Under the ISA² programme, the European Commission is creating a **Catalogue of Standards of ICT Procurement**. The European Catalogue will help ensure that procured solutions are interoperable and increase the transparency of the ICT procurement market. The Catalogue will offer a one-stop-shop for procurement guidelines, including vendor lock-in, the use of standards, and a lifecycle costing scheme that accounts for the often-neglected interoperability costs.

At present, the **Catalogue** is a draft version to demonstrate the concepts. The prototype proposes procurement needs in four domains: cloud computing, transport systems, eGovernment, and smart and efficient use of energy.

In February 2017, the European Commission launched an open public consultation to improve the draft contents of the Catalogue by gathering feedback on the contents and taking suggestions for possible improvements to the catalogue structure.

3.2.7 ISA² Core Vocabularies

Core Vocabularies are simplified, reusable, and extensible data models that capture the fundamental characteristics of an entity, such as a person or a public organisation, in a context-neutral manner.

Public administrations can use and extend the Core Vocabularies in the following contexts:

- Information exchange between systems: The Core Vocabularies can form the basis of a context-specific data model to exchange data among existing information systems.
- Data integration: The Core Vocabularies can be used to integrate data disparate data sources.
- Data publishing: The Core Vocabularies can be used as the foundation of a common export format for data in base registries like cadastres, business registers and service portals.
- Development of new systems: The Core Vocabularies can be used as a default starting point for designing the conceptual and logical data models in newly developed information systems.

ISA² has developed the Core Vocabularies for public administrations in an open process with the active involvement of the SEMIC and Catalogue of Service action stakeholders.

The Core Vocabularies are:

- Core Person: captures the fundamental characteristics of a person, e.g. name, gender, date of birth, location.
- Core Business: describes legal entities (e.g. its identifier, activities) which are created through a formal registration process, typically in national or regional register.
- Core Location: about the main characteristics of a location, represented as an address, a geographic name or geometry.
- Core Criterion and Core Evidence: describes the principles and the means that a private entity must fulfil to become eligible or qualified to perform public services. A *criterion* is a rule or a principle that is used to judge, evaluate or test something. *Evidence* is a means to prove a *criterion*.
- Core Public Organisation: describes public organisations in the European Union.

- Core Public Service Vocabulary (Application Profile) (CPSV-AP): provides a common data model for describing public services offered by public administrations. It standardises the semantics of personal milestones. The descriptions will make data on these events structured, easier to capture and machine-readable.

A photograph of a person in a blue suit sitting at a desk. On the desk, there is a laptop, a stack of books, and a scale of justice. The person's hands are clasped in front of them. The background is a plain wall.

4

Digital Public Administration Legislation

4 Legislative Instruments for Digital Public Administration in the European Union

4.1 Legislation on Digital Public Administration

Proposal for a Regulation of the European Parliament and of the Council Establishing the Digital Europe Programme for the Period 2021-2027

The EU is setting up a new funding programme, **Digital Europe**, which will be in place from 2021 until 2027, to support the digital transformation of Europe's societies and economies. The programme aims to further develop the digital single market and promote the uptake of digital technologies in both the public and private sectors.

The Digital Europe programme will provide EUR 9.2 billion in funding (the sum pending approval of Member States) for projects in five areas: supercomputing, artificial intelligence, cybersecurity, advanced digital skills, and ensuring wide use of digital technologies across the economy and society.

4.2 Interoperability

Directive 2006/123/EC of the European Parliament and of the Council of 12 December 2006 on Services in the Internal Market

The objective of the **Services Directive** was to release the untapped growth potential of services markets in Europe by removing legal and administrative barriers to trade in the services sector.

The Directive required the Member States to simplify procedures and formalities that service providers needed to comply with. In particular, it required Member States to remove unjustified and disproportionate burdens and to substantially facilitate the establishment of a business and the cross-border provision of services.

Pursuant to the Directive, Member States were obliged to set up **points of single contact**, through which service providers can obtain all relevant information and deal with all administrative formalities without the need to contact several authorities. The points of single contact had to be accessible at a distance and by electronic means.

The Services Directive strengthened the rights of recipients of services, which could be for both consumers and SMEs. It also laid down a set of measures to promote a high quality of services and to enhance information and transparency relating to service providers and their services.

Finally, the Services Directive obliged the Member States to cooperate with each other in order to ensure efficient supervision of providers and their services.

4.3 Key enablers

4.3.1 Access to public information

Directive (EU) 2019/1024 of the European Parliament and of the Council of 20 June 2019 on open data and the re-use of public sector information

The Directive on open data and the re-use of public sector information, also known as the 'Open Data Directive' (Directive (EU) 2019/1024) entered into force on 16 July

2019. It replaces the Public Sector Information Directive, also known as the 'PSI Directive' (Directive 2003/98/EC) which dated from 2003 and was subsequently amended by the Directive 2013/37/EU.

Directive 2003/98/EC of the European Parliament and of the Council of 17 November 2003, on the re-use of public sector information set out a framework for the conditions of its reuse and aimed to ensure equal treatment for commercial editors within the internal market. Public sector organisations authorising this type of reuse continued to hold copyright and related rights. They were, however, invited to exercise their copyrights in a way that facilitated re-use. However, the Directive did not seek to define or to change access regimes in Member States, which remain their responsibility. Directive 2013/37/EU extended the scope of Directive 2003/98/EC to libraries, including university libraries, museums and archives.

The review process that led to the adoption of the Open Data Directive was launched in 2017, when the European Commission opened a [public online consultation](#) on the review of Directive 2013/37/EU, fulfilling the periodic review obligation prescribed by the Directive. Building on the [results of the consultation](#), together with an extensive evaluation of the Directive and an [impact assessment](#), a [proposal for a revision of the Directive](#) was adopted by the European Commission on 25 April 2018. On 22 January 2019, negotiators from the European Parliament, the Council of the EU and the Commission reached an [agreement](#) on the revision proposed by the Commission. When adopted in June 2019, the Directive was renamed as the Open Data and Public Sector Information Directive and will make public sector and publicly funded data re-usable.

Member States must transpose Directive (EU) 2019/1024 by 16 July 2021. The new rules will broaden the scope to include data held by public undertakings (under a specific set of rules) and research data resulting from public funding.

[Regulation \(EU\) 2018/1724 Establishing a Single Digital Gateway to Provide Access to Information, to Procedures, and to Assistance and Problem-Solving Services](#)

On 27 September 2018, the Council adopted a [regulation on setting up a single digital gateway](#). The Single Digital Gateway will address the current fragmentation and information gaps by completing, improving and linking up relevant EU and national-level online information, assistance services and procedures in a user-friendly way.

The aim is to provide businesses and citizens with high quality, comprehensive information, effective assistance and problem-solving services and efficient compliance procedures regarding EU and national rules applicable to citizens and businesses when they want to do business and/or to travel to, buy from, work, study or reside in another Member State. The gateway will be based on a user interface that would search the best service package for any query a user may have.

The Single Digital Gateway Regulation introduces (Article 14) the once-only principle for cross-border transactions, meaning that citizens and businesses will not have to provide data more than once to public administrations in the EU. This principle will be applicable for all the procedures under [Annex II](#).

[Regulation \(EU\) 2018/1807 of the European Parliament and of the Council of 14 November 2018 on a Framework for the Free Flow of Non-Personal Data in the European Union](#)

In line with the objectives of the [Communication on Building a European Data Economy](#), the [Regulation](#), applicable as of 28 May 2019, aimed to achieve a more

competitive and integrated EU market for data storage and/or processing services and activities. More specifically, this entails:

- Reducing the number and range of data localisation restrictions;
- Enhancing legal certainty;
- Facilitating cross-border availability of data for regulatory control purposes;
- Improving the conditions under which users can switch data storage and/or processing service providers or port their data back to their own IT systems;
- Increasing trust in and the security of cross-border data storage and/or processing.

Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007, Establishing an Infrastructure for Spatial Information in the European Community (INSPIRE)

On 25 April 2017, Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007, an Infrastructure for Spatial Information in the European Community (INSPIRE) was established in Europe to support Community environmental policies, and policies or activities which may have an impact on the environment. It entered into force on 15 May 2007, and it was set for implementation in various stages, with full implementation required by 2021.

INSPIRE will enable the sharing of environmental spatial information among public sector organisations and better facilitate public access to spatial information across Europe. Furthermore, it will aid cross-border policymaking.

4.3.2 eID and Trust Services

Regulation (EU) No 910/2014 of the European Parliament and of the Council of 23 July 2014 on Electronic Identification and Trust Services for Electronic Transactions in the Internal Market and Repealing Directive 1999/93/EC

The Regulation (EU) No 910/2014 on electronic identification and trust services for electronic transactions in the internal market, the eIDAS Regulation, is a major step in building a Digital Single Market and in boosting trust, security and convenience online, for governments, businesses and consumers. Thanks to eIDAS, the EU now has a predictable legal framework providing legal certainty beyond national borders for electronic identification (eID) and for electronic trust services (such as electronic signatures, seals, time stamping, delivery services and website authentication).

In this regard, the eIDAS Regulation:

- Ensured that people and businesses can use their own national electronic identification schemes (eIDs) to access public services in other EU countries where eIDs are available.
- Created a European internal market for trust services by ensuring that they will work across borders and have the same legal status as traditional paper-based processes.

With the eIDAS Regulation, the relevant implementing acts, and including standards as well as a technical interoperability infrastructure, which was rolled out under the Connecting Europe Facility, the EU became the first and only region in the world having a holistic, workable and balanced legal framework for cross-border use of electronic identification and trust services.

The eIDAS Regulation entered into force on 17 September 2014. It laid down specific application dates for the following:

- Rules on trust services (electronic signatures, seals, time stamps, electronic registered delivery services and website authentication) were directly applicable to all EU Member States since 1 July 2016.
- While all Member States were required to recognise other Member States' notified eID means as of 29 September 2018, the voluntary recognition of eIDs has been allowed since 29 September 2015, following the adoption of relevant implementing acts. This meant that an EU Member State may, on a voluntary basis, notify and recognise national eID means that citizens and companies could use across borders to access online public services. To date (and the information is continuously updated), 25 Member States have national eID means in place, whether eID cards or other means.

To this end, Member States have been working on setting up their national eIDAS nodes with help from the Connecting Europe Facility Programme of the Commission, i.e. the required infrastructure for the eID cross-border connection, and all are expected to be ready by the required deadline.

Regulation (EU) No 211/2011 of the European Parliament and of the Council of 16 February 2011 on the Citizens' Initiative

This Regulation established the procedures and conditions required for a citizens' initiative as provided for in Article 11 TEU and Article 24 TFEU. It stipulated the requirements for organisers and for signatories, the registration process of a proposed citizens' initiative, procedures and conditions for the collection of statements of support, and other important requirements for creating a citizens' initiative.

It was supplemented by Commission implementing regulation (EU) No 1179/2011 of 17 November 2011, which stipulated the technical specifications for online collection systems pursuant to Regulation (EU) No 211/2011 of the European Parliament and of the Council on the Citizens' Initiative.

4.3.3 Security aspects

Directive (EU) 2016/1148 of the European Parliament and of the Council of 6 July 2016 Concerning Measures for a High Common Level of Security of Network and Information Systems Across the Union

The Directive on Security of Network and Information Systems (the NIS Directive) was adopted by the European Parliament on 6 July 2016 and entered into force in August 2016. Member States were given 21 months to transpose the Directive and six months more to identify operators of essential services.

The Directive ensured Member States' preparedness for cyber threats by requiring them to be appropriately equipped. They were required to establish a Computer Security Incident Response Team (CSIRT) Network, in order to promote swift and effective operational cooperation on specific cybersecurity incidents and sharing information about risks. A culture of security across sectors was considered vital for the economy and society which relied heavily on ICT, such as energy, transport, water, banking, financial market infrastructures, healthcare and digital infrastructure.

In 2017, the Commission put forward a draft Implementing Regulation Pursuant Art 16(8) of the NIS Directive. This Regulation specified further the elements to be considered by digital service providers when identifying and taking measures to ensure a level of security of network and information systems, which they use in the context of offering services referred to in Annex III to Directive (EU) 2016/1148. It also specified further the parameters to be considered to determine whether an incident has a substantial impact on the provision of those services

Regulation (EU) 2018/1725 of the European Parliament and of the Council of 23 October 2018 on the protection of natural persons with regard to the processing of personal data by the Union institutions, bodies, offices and agencies and on the free movement of such data, and repealing Regulation (EC) No 45/2001 and Decision No 1247/2002/EC

In January 2012, the European Commission proposed a comprehensive reform of data protection rules in the EU. In this context, on 4 May 2016, the official texts of the [General Data Protection Regulation \(GDPR\)](#) were published in the EU Official Journal in all the official languages. The provisions of the Regulation became directly applicable in all Member States on 25 May 2018.

The aim of GDPR was to update data protection rules in order to protect all EU citizens from privacy and data breaches in an increasingly data-driven world that was vastly different from the time in which the [Directive 95/46/EC](#) was established. In this regard, the GDPR Regulation introduced several significant changes when it came to data protection in the EU:

- Each private company working with data needed to have delegated Data Protection Officers;
- Companies not complying with the Regulation faced fines of up to EUR 10 million or 2% of the company's global annual turnover;
- Introduction of the 'privacy by design' principle;
- Data controllers were required to: (i) maintain certain documentation, (ii) conduct a data protection impact assessment for more risky processing (DPAs may compile lists of what is caught), and (iii) implement data protection by design and by default, e.g. data minimisation.

Furthermore, according to the Regulation data subjects:

- Must consent to the collection and use of their data;
- Have the right for their information to be 'forgotten'.

[Regulation 2018/1725](#) sets forth the rules applicable to the processing of personal data by European Union institutions, bodies, offices and agencies. It is aligned with the General Data Protection Regulation and the Data Protection Law Enforcement Directive. It entered into application on 11 December 2018 and established a [European data protection supervisor \(EDPS\)](#). The EDPS is an independent EU body responsible for monitoring the application of data protection rules within European Institutions and for investigating complaints.

4.3.4 *Interconnection of base registries*

Directive 2012/17/EU of the European Parliament and of the Council of 13 June 2012 Amending Council Directive 89/666/EEC and Directives 2005/56/EC and 2009/101/EC of the European Parliament and of the Council as Regards the Interconnection of Central, Commercial and Companies Registers

Directive 2012/17/EU on the interconnection of business registers entered into force on 7 July 2012. Member States had two years to adapt their national laws to introduce the first set of provisions in the Directive, including a new obligation on business registers to make available documentation submitted by limited liability companies within 21 days of receipt. Ensuring that information about companies was always up to date was one of the main objectives of this Directive. Business registers were required to make available information on the rules in their national law, according to

which third parties could rely on certain company documents. This information was also available on the [eJustice portal](#).

The Directive also required a Business Registers Interconnection System (BRIS) to be established. The Commission implementing [Regulation \(EU\) 2015/884](#) set out technical specifications and procedures required for the system of interconnection of business registers. Member States had to transpose the remaining rules and make the necessary preparations for connecting to the new system by 8 June 2017. BRIS made it easy to access information on EU companies via the [eJustice](#) or other national portals. In addition, it facilitated electronic communication between registers in relation to cross-border mergers and branches of companies registered in other Member States.

4.3.5 eProcurement

[Directive 2014/24/EU of the European Parliament and of the Council of 26 February 2014 on Public Procurement and Repealing Directive 2004/18/EC](#)

The [Directive](#), which took effect on 26 February 2014, set out the legal framework for public procurement, including electronic procurement. It established the procedures which must be followed before awarding a contract to suppliers (i.e. providers of works, supplies or services) when its value exceeded set thresholds, unless it qualified for a specific exclusion - e.g. on grounds of national security. The EU Member States were required to transpose the Directive into national law by 18 April 2016.

The Directive introduced a set of new rules, including a new electronic self-declaration for bidders ([ESPD](#)), which paved the way for the digitisation of public procurement, which considerably increased the efficiency of the public procurement system. For instance, only the winning company needed to submit all the documentation proving that it qualified for a contract, drastically reducing the volume of essential documents.

[Directive 2014/55/EU of the European Parliament and of the Council of 16 April 2014 on Electronic Invoicing in Public Procurement](#)

EU countries and the European Commission decided to introduce a European Standard for eInvoicing in response to the many eInvoice formats used across the EU. Once the [eInvoicing Directive 2014/55/EU](#) was transposed into the national laws of EU countries, the deadline for implementing the norm has passed, and electronic invoices are able to flow seamlessly across the EU.

4.4 Accessibility

[Directive \(EU\) 2016/2102 of the European Parliament and of the Council of 2 December 2016 on the Accessibility of Websites and Mobile Applications of Public Sector Bodies](#)

The objectives of the web accessibility directive were two-fold; firstly, the directive aimed to ensure equal access to public sector information and services for people with disabilities, and secondly, the harmonisation of approaches to accessibility reduced technical barriers on the digital single market.

In accordance with the directive, a new website by a public sector body had to be published in an accessible format by September 2019. Already, existing websites must be made accessible by September 2020, and mobile applications must be accessible by June 2021.

In addition, Member States must appoint a national body in charge of periodically monitoring the compliance with the provisions of the directive, and to report the outcome of such monitoring to the Commission.



5

Digital Public
Administration
Funding
Programmes

5 Funding programmes for Digital Public Administration in the European Union

5.1 Digital Europe Programme

As part of the new Multiannual Financial Framework for the period 2021-2027, the European Commission has proposed a new funding programme: the **Digital Europe Programme**, whose goal will be to set up the strategic digital capacities of the EU and to promote a far-reaching deployment of new technologies, to be used by the EU's citizens and businesses. With an overall budget of EUR 9.2 billion, the Digital Europe Programme aims to define and bolster the digital transformation of Europe's society and economy.

The programme will heavily focus on investing and boosting Europe's use of new technologies such as supercomputing, artificial intelligence, the Internet of Things, blockchain, etc. In addition, it will boost investments in cybersecurity and advanced digital skills so as to improve Europe's competitiveness in the global digital economy and increase its technological autonomy.

5.2 The Connecting Europe Facility (CEF)

On 29 June 2011, the European Commission adopted a **proposal for the next Multi-Annual Financial Framework for the period 2014-2020**. In this Framework, a new integrated investment instrument was proposed to improve Europe's transport, energy and digital networks: **The Connecting Europe Facility (CEF)**. Investing in these three main networks to make them smart, sustainable and fully interconnected will help boost Europe's competitiveness and create jobs.

Article 5 of the CEF Regulation allocated EUR 1.14 billion to the digital sector for connectivity actions and the deployment of Digital Service Infrastructures (DSIs) delivering networked cross-border services for citizens, businesses and public administrations. These projects contributed to:

- Improvements in the competitiveness of the European economy;
- Promotion of the interconnection and interoperability of national, regional and local networks;
- Access to such networks, thus supporting the Digital Single Market.

The **Connectivity** component of the programme sought to contribute to the achievement of the Digital Agenda targets of all European households having access to internet connections of 30 Megabits per second (Mbps) by 2020, and of 50% of households subscribing to internet connections above 100 Mbps by 2020. In view of these targets, CEF works to facilitate an efficient flow of private and public investments to stimulate the deployment and modernisation of broadband networks.

The **Digital Service Infrastructures (DSIs)** facilitates cross-border and cross-sector interaction between European public administrations. Projects are focused on deploying a small number of trans-European infrastructures based on mature technical and organisational solutions and aimed at supporting exchanges and collaboration with and within the public sector across the EU.

For the **2021-2027 period**, the Commission proposed a new budget of EUR 3 billion, mostly focused on connectivity aspects, especially within the regions of the EU. In addition, the new programme aims to speed up the decarbonisation and digitalisation

of the EU's economy by further and better integrating the transport, energy and digital sectors, and to help the EU achieve its climate objectives.

5.3 Horizon 2020

Horizon 2020 is an EU Research and Innovation programme with nearly EUR 80 billion of funding available over seven years (2014 to 2020).

2020 has the political backing of Europe's leaders and the Members of the European Parliament considering its potential to drive economic growth and create jobs. By coupling research and innovation, Horizon 2020 is helping to invest in the future of Europe with its emphasis on scientific excellence, industrial leadership and tackling societal challenges.

The goal is to ensure that Europe produces world-class science, removes barriers to innovation and makes it easier for the public and private sectors to work together in delivering innovation. Horizon 2020 is open to everyone, with a simple structure that reduces red tape so participants can focus on what is truly important. This approach makes sure new projects get off the ground quickly – and achieve results faster.

Horizon 2020 covers seven different domains of actions called 'Societal Challenges'. The Societal Challenge 6 'Europe in a changing world – Inclusive, innovative and reflective societies' deals with a series of societal issues and, among others, directly addresses problems related to eGovernment and modernisation of public administrations. The research and innovation actions in this area for 2014 and 2015 focused on demonstrating the open and collaborative government concept through the following topics:

- Research into using emerging technologies in public sector;
- Pilots on open participation of the youth in decision-making processes;
- ICT-enabled open government; innovation actions for mobile, personalised public services and transparency of public administrations;
- Design and creation of innovative applications by SMEs, in order to foster the delivery of mobile public services (eGovernment apps) for local and regional public authorities.

The Work Programme 2016-2017 supported eGovernment / ICT-enabled public sector innovation related activities through the following topics:

- Applied co-creation to deliver public services;
- Co-creation between public administrations: once-only principle;
- Policy-development in the age of big data: data-driven policy making, policy modelling and policy implementation;
- Understanding the transformation of European public administrations;
- New business models for inclusive, innovative and reflective societies.

All of the Horizon 2020 funded projects can be accessed on their main [database](#).

The Work Programme 2018-2020 continues to support ICT-enabled public sector innovation in Europe in several ways, addressing the following topics:

- The challenge of migration integration through ICT-enabled solutions;
- Transformative impact of disruptive technologies in public services;
- New forms of delivering public goods and inclusive public services;
- Pilot on using the European Cloud Infrastructure for public administrations;

- Digital Solutions and e-tools to modernise the CAP (Common Agricultural Policy) (jointly with Societal Challenge 2).

All Horizon 2020 funded projects can be accessed on their main [database](#) on the Community Research and Development Information Service (CORDIS).

Horizon Europe is the Commission's proposal for a new research and innovation funding programme post-Horizon 2020. From 2021 through 2027, it will aim at strengthening the EU's scientific and technological competences, at boosting the EU's innovation capacities, competitiveness and jobs, as well as sustaining its citizens' socio-economic model and values.

It has a budget of EUR 100 billion which will be split into three main policy areas:

- Open Science: aimed at reinforcing and extending the knowledge and skills of the EU's scientific base;
- Global Challenges and Industrial Competitiveness: whose goal will be to boost the use of new technologies and key solutions that will sustain and be a base for new EU policies. This policy area will be divided into five clusters: health; inclusive and secure society; digital and industry; climate, energy and mobility; food and natural resources;
- Open Innovation: whose aim will be to stimulate market-creation developments, new discoveries and innovations.

5.4 European Structural and Investment Funds (ESIF)

The [European Structural and Investment Funds](#) provide eGovernment investments to less favoured regions to aid their economic and social development. As stipulated in Article 9 of the Common Provisions Regulation, which lays down the common rules applicable to ESIF, each ESIF must also support eleven thematic objectives (TO), including thematic objectives 2 and 11 which are particularly relevant to the modernisation of public administrations.

Thematic Objective 2 (TO2): Aims to increase access to, and the use and quality of, information and communication technologies. Between 2014 and 2020, around EUR 3.4 billion will support eGovernment services and applications, while around EUR 1 billion will support access to public sector information.

The main goals of TO2 are:

- Extending broadband deployment and the roll-out of high-speed networks;
- Developing ICT products and services, eCommerce and enhancing demand for ICT;
- Strengthening ICT applications for eGovernment, eLearning, eInclusion and eHealth;
- Enhancing the accessibility, use and quality of ICT through the development of digital literacy, investment in eInclusion, eSkills and related entrepreneurial skill.

Thematic Objective 11 (TO11), as set by the European Commission, aims to enhance institutional capacity and to support the efficiency of public administrations. In the current programming period of 2014-2020, overall EUR 4.2 billion will be spent on administrative capacity building.

The main goals of TO11 are:

- Investment in institutional capacity and in the efficiency of public administration and public services;
- Capacity building for all stakeholders delivering education, lifelong learning, training and employment and social policies.

5.5 European Regional Development Fund and Cohesion Fund

For the upcoming Multiannual Financial Framework 2021-2027, the European Commission has decided to merge two funds together: the European Regional Development Fund (ERDF) and the Cohesion Fund (CF) in order to identify the specific objectives and scope of support for both funds.

The majority of its dedicated budget of EUR 373 billion will focus on ERDF's previous focus areas such as smart growth and the green economy, as well as connectivity and local development. The remaining budget will be primarily allocated to environment and transport infrastructure, two major pillars of the CF.

5.6 European Social Fund Plus (ESF+)

In the same spirit as the current European Social Fund 2014-2020, the European Social Fund Plus (ESF+) will be considered as the main EU financial instrument for improving workers' mobility and their employment opportunities. In addition, it will aim for the strengthening of social cohesion, for the improvement of social fairness and for an increase in competitiveness across the EU, for the period spanning from 2021 to 2027.

With a budget of EUR 101 billion, the ESF+ will focus its investments in three main policy areas: education, employment and social inclusion.

5.7 Structural Reform Support Programme (and Service)

The Structural Reform Support Programme was established with the objective of strengthening the overall capacity of Member States to prepare and implement growth-enhancing institutional, structural and administrative reforms. The programme assists in the efficient and effective use of Union funds at the request of Member States.

In May 2017, the Council approved a EUR 142.8 million programme to help Member States implement structural reforms. The intention is to provide for an extension – under the auspices of the Structural Reform Support Service (SRSS) – of technical support to all Member States requesting it.

Since January 2020, DG REFORM coordinates the Structural Reform Support Programme, previously carried out by the Structural Reform Support Service.

According to the Annex of the Work Programme for the year 2020 for the Structural Reform Support Programme under Regulation (EU) 2017/825 of the European Parliament and of the Council, the priorities of the SRSP for 2020 reflect the five areas set out in Article 5(2) of the SRSP Regulation and are as follows:

- **Public Financial Management:** SRSP will finance measures related to, among others, revenue administration and tax policy;

- **Governance and Public Administration:** SRSP will support measures in the fields of Digital Public Administration, procurement, the fight against fraud, among others;
- **Growth, Business Environment and Sectoral Issues:** SRSP will focus on measures in the fields of investment climate, management of natural resources and the Energy Union;
- **Labour Market, Education, Health and Social Services:** SRSP will particularly support measures in the fields of healthcare, education, training and research, migration and social welfare systems;
- **Financial Sector and Access to Finance:** SRSP will encourage measures in the fields of capital market development, financial literacy, etc.

The new Structural Reform Support Programme for the period covering 2021-2027 has not been adopted yet. However, it has been decided that with its overall budget of €25 billion, the programme will focus on three main elements:

- The creation of a **Reform Delivery Tool**, so as to grant financial support to all Member States, for reforms identified in the context of the European Semester;
- The setting-up of a **Technical Support Instrument**, which will bring further technical support to reinforce the administrative capacities of Member States to carry out the reforms;
- The establishment of a **Convergence Facility**, to provide both financial and technical support to those Member States aspiring to join the eurozone.

5.8 ISA² (Interoperability Solutions for European Public Administrations) programme

On 25 November 2015, ISA², the follow-up programme to ISA, was officially adopted by the European Parliament and the Council of the European Union.

ISA (Interoperability Solutions for European Public Administrations) provided a framework that allowed Member States to work together to create efficient and effective electronic cross-border and cross-sector public services. The programme supported and maintained the [European Interoperability Framework \(EIF\)](#) and contained actions on:

- Trusted information exchange;
- Interoperability architecture;
- Assessment of the ICT implications of new EU legislation;
- Accompanying measures, such as communication activities, evaluation of progress in implementing the programme, and, among other measures, the new action on the ISA collaboration platform, which resulted in the creation of the [Joinup](#) portal focusing on eGovernment, semantic interoperability and Open Source Software (OSS).

The follow-up programme, ISA², covers the period 2016 - 2020 with a financial package of EUR 131 million. This programme supports the development of interoperable digital solutions, which will be available to all interested public administrations in Europe. The main beneficiaries of ISA² are public administrations at EU, national, regional and local level (direct beneficiaries), as well as citizens and businesses (indirect beneficiaries). The new programme builds strongly on its predecessor, while also incorporating new elements, such as:

- A focus on the link between Public Administrations and businesses and citizens;

- Covering all levels of administration;
- An essential contribution to the Digital Single Market strategy;
- The goal of increased synergies with relevant EC initiatives;
- The adoption of a holistic approach to interoperability with the responsibility for European Interoperability Strategy (EIS), the European Interoperability Framework (EIF), the European Interoperability Reference Architecture (EIRA) and the European Interoperability Cartography (EIC).

5.9 Justice Programme

This programme will contribute to the further development of a European area of justice based on mutual recognition and mutual trust. The **Justice Programme** provides dedicated calls for eJustice projects.



6

Digital Public Administration Infrastructure

6 Digital Public Administration Infrastructures

6.1 Trans European Services for Telematics between Administrations (TESTA)

The TESTA network service originates from the IDA programme (1996). Following this programme, TESTA was passed on to the IDA II, IDABC and ISA programme.

It is a trusted solution endorsed by the Member States, providing high levels of security (confidentiality and integrity) by-design. The network has connections with all of the EU institutions, EU Agencies, the public administrations in the Member States (EU National networks), FFTA and candidate countries.

TESTA was developed in response to the need for highly sensitive secure information exchanges between EU public bodies which required guaranteed service levels for network availability, performance and/or security (confidentiality, integrity, authentication, availability).

TESTA aims at improving the efficiency of cross-border inter-administrative operations. With guaranteed performance levels, it allows connected stakeholders and information systems to communicate at the trans-European level in a safe, reliable and prompt way.

6.2 GÉANT

GÉANT is the pan-European research and education network that connects Europe's National Research and Education Networks (NRENs).

Through its integrated catalogue of connectivity, collaboration and identity services, GÉANT provides over 50 million users at 10 000 institutions across Europe with highly reliable, unconstrained access to computing, analysis, storage, applications and other resources, to ensure that Europe remains at the forefront of research.

6.3 Common Communications Network/ Common Systems Interface (CCN/CSI)

The CCN/CSI network is a common platform based on the common communication network (hereinafter the 'CCN') and common system interface (hereinafter the 'CSI'), developed by the Union for electronic communications between competent authorities regarding customs and taxation.



7

Digital Public Administration Services

7 Digital Public Administration Services

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

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

7.1 Life and Travel

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

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

7.2 Doing Business

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

- [Running a business](#) (e.g. Developing a business);
- [Taxation](#) (e.g. Business tax);
- [Selling in the EU](#) (e.g. Public contracts);
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- [Product requirements](#) (e.g. Standards);
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The Digital Public Administration Factsheets

The factsheets present an overview of the state and progress of Digital Government European countries.

They 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 European Commission.



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An action supported by ISA²

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