SPAIN

2024 Digital Public Administration Factsheet

Supporting document

Main developments in digital
public administrations and
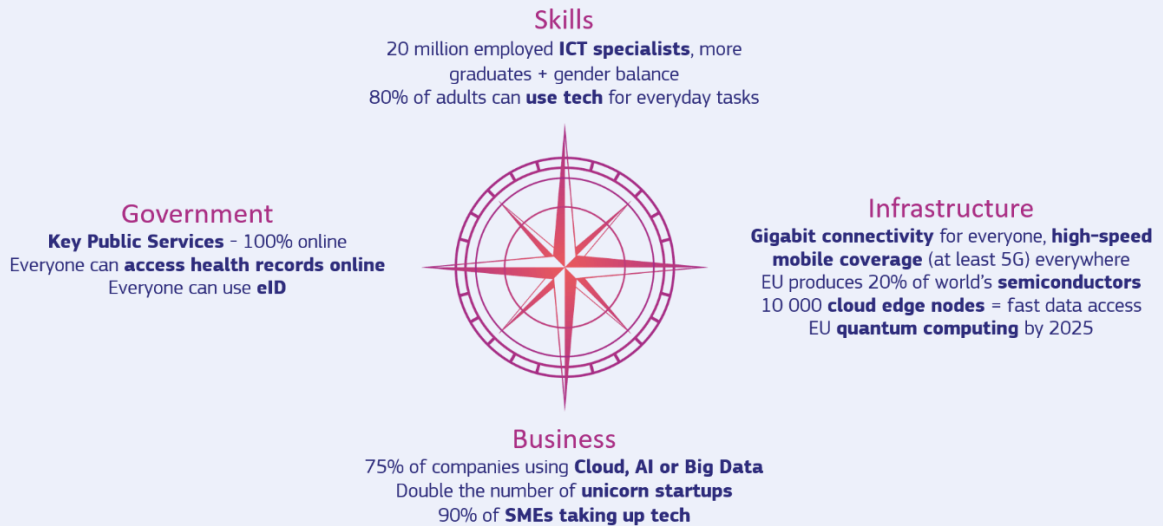interoperability

JULY 2024

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Political Communication	*Legislation*	*Infrastructure*

2030 DIGITAL DECADE

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

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

Skills
20 million employed **ICT specialists**, more graduates + gender balance
80% of adults can **use tech** for everyday tasks

Government
Key Public Services – 100% online
Everyone can **access health records online**
Everyone can use **eID**

Infrastructure
Gigabit connectivity for everyone, **high-speed mobile coverage** (at least 5G) everywhere
EU produces 20% of world's **semiconductors**
10 000 **cloud edge nodes** = fast data access
EU **quantum computing** by 2025

Business
75% of companies using **Cloud, AI or Big Data**
Double the number of **unicorn startups**
90% of **SMEs taking up tech**

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

1. Interoperability State-of-Play

In 2017, the European Commission published the European Interoperability Framework (EIF) to give specific guidance on how to set up interoperable digital public services through a set of 47 recommendations divided in three pillars. The EIF Monitoring Mechanism (MM) was built on these pillars to evaluate the level of implementation of the framework within the Member States. Whereas during the previous, the MM relied upon three scoreboards, starting from the 2022 edition it includes an additional scoreboard on cross-border interoperability, assessing the level of implementation of 35 Recommendations. The mechanism is based on a set of 91 Key Performance Indicators (KPIs) clustered within the four scoreboards (Principles, Layers, Conceptual model and Cross-border interoperability), outlined below.

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

Scoreboard 1 **Interoperability Principles**	Recommendation(s) n°
Principle 1 - Subsidiarity and Proportionality	1
Principle 2 - Openness	2-4
Principle 3 - Transparency	5
Principle 4 - Reusability	6-7
Principle 5 - Technological neutrality and data portability	8-9
Principle 6 - User-centricity	10-13
Principle 7 - Inclusion and accessibility	14
Principle 8 - Security and privacy	15
Principle 9 - Multilingualism	16
Principle 10 - Administrative simplification	17
Principle 11 - Preservation of information	18
Principle 12 - Assessment of Effectiveness and Efficiency	19

Scoreboard 2 **Interoperability Layers**	Recommendation(s) n°
Interoperability Governance	20-24
Integrated Public Service Governance	25-26
Legal Interoperability	27
Organisational Interoperability	28-29
Semantic Interoperability	30-32
Technical Interoperability	33

Scoreboard 3 **Conceptual Model**	Recommendation(s) n°
Conceptual Model	34-35
Internal information sources and services	36
Basic Registries	37-40
Open Data	41-43
Catalogues	44
External information sources and services	45
Security and Privacy	46-47

Scoreboard 4 **Cross-border Interoperability**

Source: European Interoperability Framework Monitoring Mechanism 2023

Each scoreboard breaks down the results into thematic areas (i.e. principles). The thematic areas are evaluated on a scale from one to four, where one means a lower level of implementation and four means a higher level of implementation. The graphs below show the result of the EIF MM data collection exercise for Spain in 2023, comparing it with the EU average as well as the performance of the country in 2022.
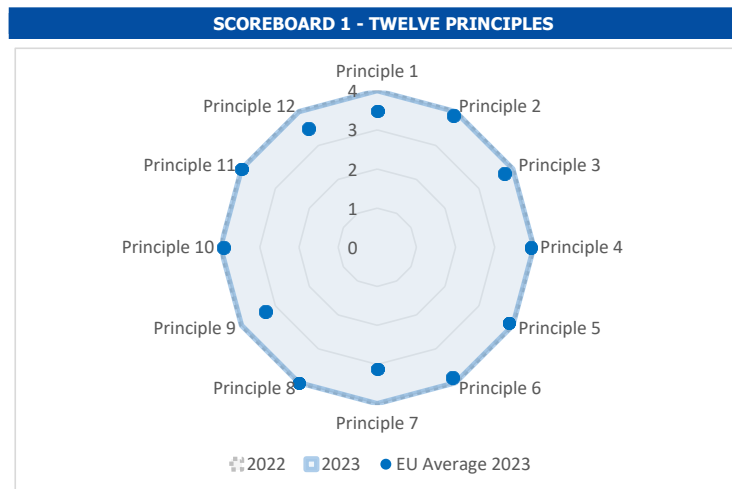
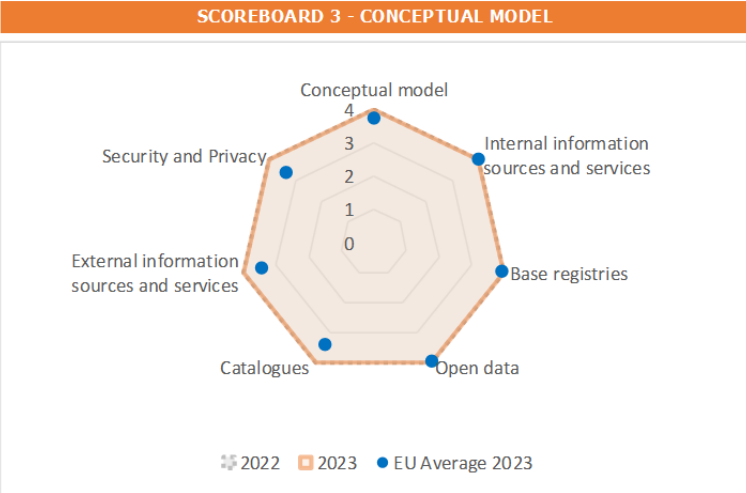Source: European Interoperability Framework Monitoring Mechanism 2023

The Spanish results in Scoreboard 1 stand out for being an excellent example of implementation of the EIF Principles. As a matter of fact, both in 2022 and 2023, Spain performed equal or above the European average for all Principles. A possible area for improvement remains linked to Principle 9 (Multilingualism); in particular, the country may further use information systems and technical architectures that cater for multilingualism when establishing a European public service (Recommendation 16).

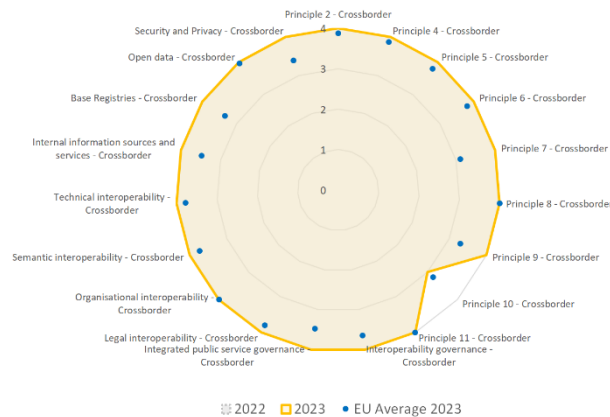Source: European Interoperability Framework Monitoring Mechanism 2023

Spanish's scores in Scoreboard 2 illustrate an outstanding performance of the country in all interoperability layers, with scores 4 across all thematic areas. In 2023, the scores related to some recommendations (i.e. Interoperability governance – Recommendation 23 and Organisational interoperability – Recommendation 29) registered an improvement, which led the country to reach the maximum score of 4 across all KPIs linked to the interoperability layers.

Source: European Interoperability Framework Monitoring Mechanism 2023

The Spanish results in relation to the Conceptual Model in Scoreboard 3 show a very good performance of the country. Spain has reached the maximum score of 4 all areas, going above the European average for Catalogues, External information sources and services, and Security and Privacy. Thanks to the improvement in the scores related to some KPIs linked to Base registries (i.e. Recommendations 37 and 38), the country achieved 4 across all areas.

SCOREBOARD 4 - CROSS-BORDER INTEROPERABILITY

Source: European Interoperability Framework Monitoring Mechanism 2023

The results of Spain on Cross-Border Interoperability in Scoreboard 4 show a very good performance of the country. Particularly, Spain has the maximum score of 4 for all the areas but Principle 10 (Administrative simplification – Cross-border), where it achieved a score of 3. Spain may improve this thematic area by adopting eID cross-border services, as well as overall try to simplify processes and use digital challenges for the delivery of European public services (Recommendation 17).

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

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

Please find here some relevant indicators and resources on this topic:
- Eurostat Information Society Indicators
- Digital Economy and Society Index (DESI)
- eGovernment Benchmark
- Repository of good practices on the EIF implementation

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2. Digital Transformation of Public Administrations

Main Digital Strategies, Action Plans and Legislations

Digital Spain 2026

In July 2020, the Spanish government introduced a plan called 'Digital Spain 2025', which was later revised in 2022 as 'Digital Spain 2026'. The aim is to to boost digital transformation and use the benefits of new technologies to promote economic growth, social equality, and productivity. This strategy includes different measures, reforms and investments focused on ten strategic areas in line with the European Commission's strategy. The overall goal of the strategy is to ensure that the benefits of the digital and ecological transition reach the whole society.

Digital Spain 2026 is the update of the strategy launched in July 2020. This agenda includes almost 50 measures organised into ten strategic areas and grouped into three categories: infrastructure and technology, economy and people.

It adds two new transversal axes referring to the Strategic Projects for Economic Recovery and Transformation (*Proyectos estratégicos para la recuperación y transformación económica,* PERTE) and the RETECH initiative. The former consists of promoting large projects with the capacity to drive economic growth, employment and the competitiveness of the Spanish economy. The latter, called RETECH, includes a series of transformative strategic projects in the digital area proposed by the autonomous communities. Among these projects, 4 are directly related to the establishment of data spaces for various industrial sectors, including tourism, industry, agri-food, mobility, and health. The whole RETECH initiative is part of the Recovery and Resilience Plan (RRP), specifically in line with Spain's 2030 objectives. The projects are funded up to 75% by the Central Government. Additional financing will be provided by the general State administration and territorial administrations.

Public Administrations Digitisation Plan 2021–2025

On 28 January 2021, the Spanish government presented the Public Administration Digitisation Plan, which is part of the higher-level strategy Digital Spain 2025 and the 11th component of Spain's Recovery, Transformation and Resilience Plan. The plan will be supported with a public investment of EUR 2.6 billion, in order to achieve its main goal: a simple, agile and efficient public administration. This goal will be pursued through the improvement of public administration accessibility by citizens and businesses, paired with strong data protection guarantees. In addition, the plan aims to overcome the digital gap between the different territories.

In addition to general actions covering all ministries, the digitisation programme will address specific sectors including health, justice, employment policy, diplomatic services and social integration. Among the different measures, for instance, the plan foresees the reinforcement of data interoperability in the health sector.

The plan will be structured around three lines of action:
1. Digitally transforming the administration with horizontal initiatives for the deployment of efficient, safe and easy-to-use public services and for a generalised access to emerging technologies;
2. Deploying leading digitisation projects, e.g. in the areas of health, justice or employment; and
3. Supporting the digitisation of territorial administrations, Autonomous Communities and local entities.

Some of the plan's strategic initiatives are:
- The Data Space of the General State Administration, the Health Data Space and the Sectorial Data Spaces: they are aimed to turn the General State Administration into a data-driven Administration;
- App Factory: this initiative will enhance mobile application development in the public sector; and
- GovTechLab: this programme will create an innovation lab within the government public administration in order to promote co-creation and innovation in public services.

Berlin Declaration on Digital Society and Value-Based Digital Government

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

Digital Rights Charter

In July 2021, Spain adopted the Digital Rights Charter, which contains a set of principles and rights to guide future regulatory projects and the development of public policies in order to guarantee the protection of individual and collective rights in new digital scenarios. It therefore sets out the principles on which to base the safeguarding of fundamental rights in the digital environment.

The objective of the charter is descriptive, prospective and assertive. Descriptive of digital contexts and scenarios that give rise to new conflicts and situations that need to be resolved; prospective by anticipating future scenarios that can already be predicted; and assertive because it revalidates and legitimises the principles, techniques and policies that should be applied in present and future digital environments and spaces.

The Digital Rights Charter also aims to strengthen citizens' rights, create certainty for society in the new digital age and increase people's confidence in the changes and disruptions brought about by new technologies.

In March 2023, the Secretary of State for Digitisation and Artificial Intelligence, through the National Observatory for Telecommunications and Information Society (ONTSI), launched a general invitation to outline, with the help of citizens, the most relevant digital rights. Six entities were selected and, as a consequence, Red.es will propose legislative and non-legislative measures to promote the implementation of the Charter of Digital Rights in the specific area to which the agreement refers.

Royal Decree No. 203/2021 on the Regulation of Action and Operation of the Public Sector by Electronic Means

Royal Decree No. 203/2021, which was published on 31 March 2021 in the Official State Gazette, approves the Regulation of action and operation of the public sector by electronic means. The approved Royal Decree pursues four main objectives: improving administrative efficiency, increasing transparency and participation, guaranteeing easily usable digital services and improving legal certainty.

The first objective is to guarantee that the administration offers electronic administrative procedures and that citizens can interact by electronic means. The second objective is to develop the electronic General Access Point (PAGe) and the Citizen Folder in the State Public Sector. The third objective is to make the electronic channel user-friendly and effective. And finally, it aims to improve legal security.

Law 6/2020, of 11 November 2020, Regulating Electronic Trust Services

Law 6/2020 of 11 November 2020 aims to regulate certain aspects of electronic trust services, as a complement to 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. The law will apply to public and private providers of trusted electronic services established in Spain. Likewise, it will apply to providers who reside or are based in another State but have a permanent establishment in Spain. This is applicable if they offer services that are not regulated by the competent authority of another country of the European Union.

Compendium of eGovernment Laws

Spain has a continuously evolving legal framework that deals with all necessary aspects for the deployment of digital administration.

The Compendium of eGovernment Laws includes the basic legislation for digital administration, together with other related issues such as eGovernment (common administrative procedure, legal system, national security, and interoperability frameworks), electronic identification, electronic signature and representation, electronic official registries, electronic notification, electronic

archiving, technical standards for interoperability, technical instructions for security, data intermediation system, procurement and use of electronic means, electronic invoicing, social security, transparency and access to public information, re-use of public sector information, digital communication, official gazette, accessibility, data protection, electronic judicial administration.

Law on Public Administration Common Administrative Procedure and Law on the Legal Regime for the Public Sector

Government organisations continued to develop in compliance with Law No. 39/2015 of 1 October 2015 on the Public Administration Common Administrative Procedure, and Law No. 40/2015 of 1 October 2015 on the Legal Regime for the Public Sector. These laws were published with the goal of reforming the functioning of the government and implementing a fully electronic, interconnected, transparent administration with a clear and simple structure.

Digitalisation of Internal Processes

Establishment of Electronic Relationships in Administrative Procedures

On 4 September 2018, Royal Decree-Law No. 11/2018 was published in the Official Gazette as an amendment to several laws. The adaptation of administrative procedures to the new paradigm and the design of optimal management processes are required for technological, organisational, and legal developments to meet the necessary degree of maturity. Hence, the amendment was delayed until 2 October 2020 before the entry into force of some of the articles of Law No. 39/2015.

Regional Government Legislation

The Court of Aragon has published Law No. 1/2021, of February 11, on Administrative Simplification. This law is aligned with the Sustainable Development Goals of the 2030 Agenda. The roadmap that establishes the 2030 Agenda towards a greener, more social, and digital Aragon is promoted by simplifying and streamlining the activities of the Autonomous Community Administration that implements this law.

Remarkably, it is the first regulation in Europe that contemplates the use of blockchain in administrative procedures. This technology will be used to ensure "the contribution, accreditation and integrity of the data and documents in any file, procedure or registry, with full legal validity for automated administrative processing".

Decree No. 622/2019 on Electronic Administration, Simplification of Procedures and Organisational Rationalisation of the Regional Government of Andalusia (*Junta de Andalucía*) was enacted on 27 December 2019. Its purpose is to establish the general principles and to adopt administrative simplification and organisational rationalisation measures, as well as the use of electronic means by the Administration of the *Junta de Andalucía* and its bodies to improve effectiveness and efficiency, as well as guaranteeing citizens' rights and safeguarding legal certainty.

Law No. 4/2019 on Digital Administration in Galicia was enacted on 17 July 2019. The purpose of this law is to regulate the model of digital government in the public sector, by developing the basic State legislation on eGovernment, to implement and encourage the adoption of specific measures to incorporate the potential of digital technologies into the design of public policies, the modernisation of the public sector in the Autonomous Community and the promotion of the Galician economy, with the ultimate aim of providing quality digital public services.

In 2020, Catalonia published Decree 76/2020 of August 4 on Digital Administration, whose objective is to determine the organisational instruments for the use of corporate information and communication technology (ICT) solutions to achieve technical standardisation, standardisation and design of digital services and platforms elements and procedures of, and standardise the services and processes involved in the development of the implementation of digital services.

In February 2021, the Valencian Community published Order 5/2021 of February 12 on Education, Culture and Sport, which regulates the content, use and access to the standardised electronic teaching file (EDEN), at the service of the public educational system of the Generalitat. DOGV No. 9022 of 02/17/2021.

Extremadura published a general layout to Decree-Law 3/2021 of March 3, with the purpose of establishing the general framework for governance structures in the Junta de Extremadura and the forms of intervention co-financed with the European Union funds, both structural and cohesion

funds, as well as other non-structural financial instruments established by the European Union. DOE: no. 45 of 03/08/2021.
The Draft Digital Andalusia Law aims to create a secure legal framework to support the full digitalisation of Andalusian society. This will enhance citizens' quality of life, drive the digital transformation of businesses, and boost the digital sector as a key economic driver in Andalusia.

Red SARA Network

The Red SARA network, managed by the Ministry of Economic Affairs and Digital Transformation, is Spain's government intranet. It interconnects all ministries, all autonomous communities (17) and autonomous cities (two), as well as over 4 000 local entities representing more than 90% of the Spanish population. The goal of Red SARA is to increase collaboration and interoperability among the information systems at the various levels of government. The network is designed with the latest VPLS (Virtual Private LAN Services) technology, thus providing high-capacity data transmission. It is also connected with the European TESTA network.

060 Network

The 060 Network provides citizens and businesses with a unique multi-channel system and a key entry point to the administrative services of all three levels of government (central government, autonomous communities and municipalities) through three types of channels: local offices, the 060.es web portal and the telephone hotline number 060. The primary objective is to satisfy the needs and expectations of users in relation to administrative matters on a 24/7 basis. The phone number 060 is intended to replace over 600 phone numbers available for citizens to access central government information.

Digitalisation Supporting the EU Green Deal

To support the green transition, various plans and investments have been implemented. These include the National Green Algorithms Program (PNAV), the digitisation of electrical networks, the Plan for Environmental, Digital and Social Infrastructures in transitioning municipalities and regions, the Plan to enforce waste regulations and promote the circular economy, the Digital Transition Strategy, and the Electric and Connected Vehicle PERTE.

The National Green Algorithms Program (PNAV)

The National Green Algorithms Program (PNAV) is aims to promote sustainable Artificial Intelligence (AI) by integrating eco-friendly elements right from the start. This initiative addresses the growing demand for environmentally conscious AI by advancing research in Green Tech, supporting energy-efficient infrastructure, blending Green AI with blockchain in the economic sector, and introducing green technological solutions to the Spanish market. The National Green Algorithms Initiative enhances sustainability by advocating for energy-saving AI and Green Tech, endorsing eco-friendly infrastructures, and weaving Green AI and blockchain into the economic fabric. These efforts align with the goals of the European Green Deal, which aims to strengthen resilience and pave the way for a carbon-neutral economy.

The Plan for Environmental, Digital and Social Infrastructures

The Plan for Environmental, Digital and Social Infrastructures in municipalities aims to support the economic recovery after the COVID-19 pandemic and mitigate the The goal is to transform these regions into pioneers of the energy transition, steering local public services towards innovation, entrepreneurship, population retention, digitisation, and environmental sustainability. The ultimate objective is to retain, regain, and attract residents to these municipalities. The measures focus on renovating publicly owned assets, spaces, and lands to improve the social, environmental, and digital aspects of public areas or enable the development of new ones.

Plan to Support Waste Regulations and Promote the Circular Economy

The Plan to support waste regulations and promote the circular economy aims to prevent waste generation, reduce its volume, and ensure proper management, emphasizing waste hierarchy principles such as reuse and recycling while minimising landfill deposits. These steps are designed for resource efficiency and will foster a more circular, sustainable, and resilient economy.

PERTE for Electric and Connected Vehicles

The PERTE for Electric and Connected Vehicles is a strategic plan that focuses on the industrial value chain of electric and connected vehicles. Its specific goal is to create an ecosystem for the comprehensive manufacturing and development of such vehicles in Spain. The PERTE initiative aims to make Spain the leading European hub for electromobility by fostering an environment conducive to the production and integration of electric and network-connected vehicles.

3. Interoperability and Data

Interoperability Framework

National Interoperability Framework

Interoperability is one of the principles included in Law No. 40/2015 on the Public Legal System. The National Interoperability Framework (NIF – *Esquema Nacional de Interoperabilidad, ENI*), as foreseen in Law No. 40/2015, and implemented through Royal Decree No. 4/2010, which was jointly formulated by all public administrations, was developed using the European Interoperability Framework as a reference.

The ENI establishes the Interoperability Technical Standards mandatory for public administration bodies and develops specific aspects of interoperability in relations with citizens.

The NIF was created in response to the conditions required to guarantee an adequate level of interoperability regarding the technical, semantic, and organisational aspects of the systems, and applications used by public administration bodies that allow the exertion of rights and fulfilment of duties through digital access. The main objectives of the NIF include the following:

- Contributing to the creation of adequate interoperability conditions for the deployment and delivery of eGovernment services;
- Providing benefits in terms of effectiveness and efficiency;
- Introducing common elements of interoperability to guide public administrations; and
- Facilitating the implementation of security policies (through the National Security Framework, Royal Decree No. 311/2022) thanks to a more rational environment.

The Spanish NIF (ENI) enshrines interoperability across the public sector, from technical, semantic, organisational and legal dimensions. The ENI was updated through Royal Decree No. 203/2021.

Technical Interoperability Standards

As outlined in the first additional provision of Royal Decree No. 4/2010 (National Interoperability Framework), 22 Technical Interoperability Standards (*Normas Técnicas de Interoperabilidad* – NTI) are mandatory for the entire Spanish public sector. These standards include: the NTI for electronic documents, the NTI for data intermediation protocols, the NTI for reusing information assets, and the NTI for processing and preservation of databases. Some of these NTIs have been introduced through Royal Decree No. 203/2021 and are currently being developed. Each NTI has been approved by a corresponding Ministerial Resolution and is supported by guidelines for its implementation.

Digital Transformation Plan for the General Administration

Measure 10 of the Digital Transformation Plan for the General Administration focuses on strengthening the National Health System. This involves improving information management across the different autonomous communities to improve services, using AI for data analysis, and addressing emergencies. Interoperability is one of the priorities in healthcare to promote collaboration and establish organisational, technical, and semantic coordination mechanisms.

Catalogues for Organisational Interoperability

The SIA (*Sistema de Información Administrativa*) and the DIR3 (*Directorio Común de Unidades Orgánicas y Oficinas*) are outlined in Article 9 of Royal Decree No. 4/2010 (National Interoperability Framework) in order to foster organisational interoperability for the Spanish Public Sector. The SIA serves as a central hub of information on administrative procedures and services offered by public administration bodies. The DIR3 is a shared directory of departments and offices within the Spanish public sector, making it easier to track changes in units and their responsibilities over time. The data is encoded in a consistent manner as specified in the ENI.

Nowadays, these two systems have registered 7 419 bodies at central level with 7 583 procedures and services, 16 372 bodies at regional level with 40 740 procedures and services, 25 722 bodies

at local level with 1 818 675 procedures and services and 672 other public bodies with 7 304 procedures and services.

InSide and ARCHIVE

InSide and ARCHIVE produced a solution package to enable the management and archiving of electronic documents and files by Spanish public administration bodies according to the legal framework of documents and files and the specifications of the National Interoperability Framework (NIF) and its Interoperability Agreements.

InSide is a system for managing complying electronic documents and electronic files so that they can be stored and retrieved according to the NIF. This solution allows for the management of live documents and files, prior to their final archiving in an interoperable format and permanent way. InSide acts as an interface to allow the exchange of electronic documents between any units of any administrative body in Spain. The number of public bodies that use INSIDE increased from 13.718.823 to 17.039.600 during 2023.

ARCHIVE is a web application for archiving documents and electronic files. ARCHIVE provides the following functionalities:

- Archive management;
- Management of different archive centres;
- Management of metadata according to the specifications of the interoperability standards of the NIF;
- Management of electronic files;
- Transfer of electronic files between archives; and
- Resealing and massive conversion of electronic documents.

New features have been added to enhance the file import process and web services for uploading and generating files in file centres. These improvements, among other things, make it easier to search for file centres and for elements within each file centre. By the end of 2023, the total number of files and documents stored in InSide was 71 577.

Aragón Interoperable Information Scheme

The Aragón government developed an ontology defining the elements of information used in the administrative activity, called the Aragón Interoperable Information Scheme (EI2A) (*Esquema de Información Interoperable de Aragón*). This scheme is used in the management of government interoperable information.

Data Access, Management and Reuse

Open Data

Fourth National Action Plan for Open Government

The Fourth National Action Plan for Open Government 2020–2024 was approved on 29 October 2020. It includes ten commitments taken on by public administrations to reinforce transparency and accountability, improve participation, establish systems of public integrity, and train citizens and public employees and raise their awareness on matters related to open government, with the aim to contribute to a more just, peaceful and inclusive society.

The general objectives of the Fourth National Action Plan are the following:

- Promoting and facilitating citizens' involvement in the decision-making process of public administration bodies;
- Improving the transparency, quality and availability of open data as mechanisms of accountability in public administration activity;
- Developing a public integrity system that promotes ethical values, reinforces good public governance practices, and raises the confidence of citizens in public administration; and
- Making citizens and public servants aware of the value of open government.

The IV Plan's implementation will finish in October 2024. Therefore, work has already started to prepare and approve the next one via a participatory and co-creation process. In addition, a roadmap for its successful execution will be set up.

Law on Transparency, Public Access to Information and Good Governance

Law No. 19/2013, adopted on 9 December 2013, aimed to expand and strengthen the transparency of public activities, regulate and guarantee the right of access to information concerning them, and establish the obligations of good government that must be meet by public officials.

Royal Decree on the Reuse of Public Sector Information

In October 2011, the Council of Ministers adopted Royal Decree No. 1495/2011 of 24 October, implementing Law No. 37/2007 on the reuse of public sector information, which, in turn, implemented EU Directive 2003/98/EC. Its objective was to establish, at the level of the national government, detailed rules implementing the legal provisions, while promoting and facilitating the availability of public sector information for its re-use both commercially and non-commercially. This regulation has been in force since November 2021.

Law No. 40/2015 on Data Exchange

Article 155 of Law No. 40/2015 states the obligation for Spanish public administrations to share the data they hold about citizens and business to other administrations, according to the data protection laws and other applicable legislation and under the conditions and protocols required to guarantee data availability, integrity, and security.

Base Registries

The following table lists some of the main Spanish base registries:

National	
Business and Tax	• Trade Registry. Managed by the Ministry of Justice • Tax Agency. Managed by the Ministry of Finance.
Transportation/ vehicles	• Directorate-General for Traffic. Managed by the Ministry of the Interior.
Land	• Cadastre. Managed by the Ministry of Finance. • Ownership Registry. Managed by the Ministry of Justice.
Population	• National Police. Managed by the Ministry of the Interior. • Civil Registry. Managed by the Ministry of Justice. • Social Security. Managed by the Ministry of Social Security.
Other	• Spanish Statistics Institute. Managed by the Ministry of the Economy • Ministry of Education and Vocational Training. Managed by the Ministry of Universities.
Sub-national	
Base registries	• Large Families. Managed by regional governments. • Common-law couples. Managed by regional governments. • Disability. Managed by regional governments. • Academic Transcripts. Managed by the universities.

Law No. 39/2015 on the Use of Data Intermediation Platforms

Article 28 of Law No. 39/2015 states that citizens and business have the right not to provide documents that are already in the possession of the acting administration, so public

administrations should collect documents electronically through their networks or by consulting the data intermediation platforms or other electronic systems enabled for this purpose.

Besides, the second additional provision sets the availability of the data intermediation platform of the State administration to be used by other Spanish public administrations on a voluntary basis by accession agreements.

Law No. 40/2015 on Data Exchange

Article 155 of Law No. 40/2015 states the obligation for Spanish public administrations to share the data they hold about citizens and business to other administrations, according to the data protection laws and other applicable legislation and under the conditions and protocols required to guarantee data availability, integrity, and security.

Resolution of 28 June 2012 on the Technical Interoperability Standard for Data Intermediation Protocols

A common exchange data protocol between Spanish base registries, the SCSP, was approved by a legislative resolution of the Secretariat of the State for Public Administrations, and according to the National Interoperability Framework -ENI- approved by Royal Decree No. 4/2010.

Implementation of Delegated EU Legislation on Technical Requirements for the Management and Maintenance of the Central Electronic Register

Delegated Regulation (EU) 2019/411 of the Commission of 29 November 2018, transposed Directive (EU) 2015/2366 of the European Parliament and of the Council. It regards the regulatory technical standards. Technical requirements were established in the development, management and maintenance of the central electronic registry in the field of payment services and on access to the information contained in the registry.

Interconnection Registry System

The Interconnection Registry System (SIR) interconnects traditional face-to-face entry registry offices and electronic entry registries of different public administration bodies. The exchange of registry entries is based on an interoperability technical standard (SICRES 3.0) developed under the National Interoperability Framework.

In 2023, a total of 13.8 million record exchanges between 16 541 public bodies were registered.

Data Intermediation Platforms

The competent authorities of each Spanish base registry provide the required infrastructure for their operation and access by other competent authorities. In this regard, for instance, the Ministry of Justice provides the infrastructure to operate and access the Civil Registry and the Ministry of Interior provides the infrastructure to operate and access the Vehicle Registry. In addition to these base registry infrastructures, central and regional public administration entities establish some Data Intermediation Platforms, as outlined in the Data Intermediation Protocol Interoperability Technical Standard. They serve as the single point of access to the Spanish base registries through the data services enabled by the corresponding competent authorities. The Secretariat-General for Digital Administration provides the National Data Intermediation Platforms to access the main base registries at national, regional, local and university level, as it is connected to the regional data intermediation platforms and to relevant national and sub-national competent authorities.

My Citizen Folder

My Citizen Folder is a web and mobile application that allows citizens to access their data hold by Public Administrations. Some of the features available for citizens include obtaining documents from the main Spanish registries through the National Data Intermediation Platform, and monitor the data exchanged between competent authorities through such a platform.

Data Platforms and Portals

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

Data Portal	Datos.gob.es is the platform hosting the National Catalogue of Open Data. This is the single-entry point through which Spanish public administration bodies (general level, autonomous, local, universities, etc.) make their data available to citizens, researchers, re-users and other administration bodies for consultation, download and reuse. It also includes general information, training materials and news about the reuse of information in the public sector, making Spain one of the European leaders on Open Data. In 2023, there were over 80 000 datasets available on datos.gob.es. Of these, more than 34% were from the central administration, 42% from the regional administration and 16% from the local administration.
Portal de la Transparencia (Transparency Portal)	The Transparency Portal was established by Law No. 19/2013, which addressed transparency, access to information and good governance. This portal allows citizens to access organisational, legal , and economic information.
Budgetary Administration Portal	The Budgetary Administration Website publishes electronic information on the general accounts of the State, the account of the general State administration, and the annual accounts of the other public sector entities. As outlined in Article 136.2 of Law No. 47/2003 on General Budget, this also includes an audit report on accounts. The annual accounts of public entities, excluding the general State administration, are presented in a reusable XBRL format. The General State Budget (*Presupuestos Generales del Estado*, PGE) for the current and previous years, along with the draft Budget Law for the upcoming year, are available on the website in different formats. The website provides data on public administration entities and their sub-sectors, presented in accordance with national accounting standards and in line with the European System of National and Regional Accounts of the European Union. It also includes the budgetary execution of the public sector, focusing on data from the General State Administration and its affiliated bodies. The portal is an integrated information platform providing data on economic and budgetary execution, audits, and accounting in the public sector. In fact, it enables electronic processing of expenses, audits, and accounting records.
Autonomous Communities and Local Governmental Portals	Spain is a State divided in regions, with many levels of governance. Therefore, every autonomous community and almost every local government (provincial councils, island councils, federations of municipalities and city councils) has its own government portals. These are the reference point for citizens and businesses who want to find out about the organisms, activities and public services of that area.
Public Websites of the Autonomous Communities	The General Access Point provides the links across all the websites of the autonomous communities. In 2020, those websites were updated to provide the required information on procedures falling under their competence, in line with the provisions of the Single Digital Gateway Regulation and the guidelines provided by the European Commission.
Transparency Portal of the Autonomous Communities	Each autonomous community has its own transparency portal and all of them are linked via the Transparency Council.
Data Portal of the Autonomous Communities	The Aporta project promotes a culture of information reuse among administration bodies, raising awareness on the importance and value of information and its subsequent reuse. Data will be a fundamental element of disruptive technologies that are meant to change our world. Various Autonomous Communities share their data through portaldata.gob.es. Links to initiatives and portals can be found here. Regional and local data portals are connected to the national portal datos.gob.es.
Data Intermediation Platform	The Data Intermediation Platform (DIP) is the main service of the central government inter-administrative infrastructure to honour the Once-Only principle. Article 28.2 of Law 39/2015 on Common Administrative

	Procedures states that every citizen has the right not to provide any data or document that is already held by the public administration. The exchange of data between public administrations is therefore a fundamental task when it comes to providing advanced electronic administration services to citizens and improving the efficiency and effectiveness of organisations. New data is added each year to the Data Intermediation Platform. More than 378 million data exchanges were completed during 2023, a 117 million increase compared to 2022. 196 are the available data services, which are used by 1 848 public bodies. Data like work records, vehicle information to road authorities, home addresses or disability data to obtain a parking permit are shared between administrations without the need for citizens to provide them.

Cross-border Infrastructures

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

European Business Registry	Spain is a member of the European Business Registry, which is a network of national business registries.
EUCARIS	Spain is a member of EUCARIS, the European Car and Driving Licence Information System, allowing the exchange of vehicle and driving license information among its member nations.
TESTA	The Trans European Services for Telematics between Administrations (TESTA) network is used for a number of cross-border use cases.
EU Digital Wallet	Spain is part of the EUDI Wallet Consortium.
European Blockchain Services Infrastructure (EBSI)	Spain participates in the project to build a European Blockchain Service Infrastructure (EBSI).
Once-Only Techcnial System (OOTS	The Secretariat-General for Digital Administration provides competent authorities an intermediary platform to access the Once-Only Technical System (OOTS) established by Article 14 of the Regulation (EU) 2018/1724
eIDAS Node	The Secretariat-General for Digital Administration provides the Spanish eIDAS Node according to Regulation (EU) 910/2014. The Spanish electronic National Identity Document (eDNI) was notified in November 2018 as a high-level of assurance eID provided by the Ministry of the Interior.

DE4a – Digital Europe For All Project

The Digital Europe For All Project (DE4A) is a Member State-driven large-scale pilot, aimed to comply with the Single Digital Gateway and align with the strategic eGovernment Action Plan 2016–2020, along with the European Interoperability Framework Implementation Strategy. It is a three-year project with 27 participants and it is fully funded by the Horizon 2020 Programme. The objective of the project is to provide real scenarios of online procedures that exchange evidence between countries by means of a technical system, in compliance with Article 28.2 of Law No. 39/2015 and Article 14 of the Single Digital Gateway Regulation, as they both refer to the Once-Only principle. Specific attention is devoted to assessing the applicability and benefits of innovative technologies with a transformative impact, such as blockchain and machine learning. The pilot covers some of the fully online procedures listed in Annex II of the Single Digital Gateway Regulation, which relate to the life events of studying and moving abroad and doing business abroad.

For its construction, the project considers as a priority the reuse of elements that already exist both at European and national level and, when necessary, the development of new ones. For the development of the pilots, resources and services of the Data Intermediation Platform (PID) are used, in addition to the SARA/TESTA network, the Cl@ve platform, the eIDAS node and the Citizens' Folder.

Spain is actively participating in all the work packages of the project and is leading the work package to build the common components of the technical system.

DC4EU Digital Credentials For European Union

Spain leads the Consortium DC4EU, which aims to contribute to a new approach in identity, data, and the Once-Only principle to empower citizens.

DC4EU kicked off in 2023 with a focus on identifying and applying all these aspects in the education sector, particularly in issuing educational credentials and professional qualifications. It also operates in the social security sector by implementing the portable document A1 (PDA1) and the European Health Insurance Card (EHIC).

The European Digital Identity Wallet (EUDIW) will play a key role in enabling various uses across different sectors and borders, such as identity verification, digital signature, educational qualifications, and social security. DC4EU aims to bring about a new approach for citizens in education and social security, in line with the European Council's requirements for identity and data protection. Additionally, it will comply with the European Declaration on Digital Rights and Principles.

EBSI-NE Digital Credentials For European Union 2023-2025

The EBSI-NE project is a collaborative initiative between 24 organisations from 14 European countries, all renowned for their expertise in Distributed Ledger Technologies and previous European Blockchain Services Infrastructure (EBSI) initiatives. Our central mission is to enhance the EBSI network by adding 18 new validator nodes into the production network and delivering comprehensive support services to all EBSI stakeholders. By strengthening the EBSI network and providing crucial support services, EBSI-NE is speeding up the adoption of blockchain technology throughout Europe.

Plan to Attract Cross-border Digital Infrastructure

Part of Digital Spain 2026, this plan aims to transform Spain into a hub for cross-border digital infrastructures, including submarine cable landing points and data storage and processing facilities. Thus, the following measures will be adopted:

- Categorisation of cross-border digital infrastructures as strategic infrastructures of high economic interest;
- Strengthening national interconnection with cross-border digital infrastructures;
- Inter-administrative cooperation to attract cross-border digital infrastructures; and
- Participation in European initiatives to promote cross-border digital infrastructures.

Spain currently has 25 submarine cables in service with landing points in 33 Spanish cities. In 2023, there were expected to be 26 cables in service and 34 cities with a landing point. This included the African cable, which is operational with a landing point in Barcelona.

4. Digital Transformation of Public Services

Digital Public Services for Citizens

Public Administration Digitisation Plan 2021–2025

Presented on 28 January 2021, the goal of the Public Administration Digitisation Plan is to improve public administration accessibility for citizens and businesses, while guaranteeing strong data protection.

General Access Point – administracion.gob.es

The General Access Point facilitates the intercommunication of citizens and businesses with public administration bodies, providing access to government information, carrying out paperwork and accessing the information they need to accomplish their objectives. It is a one-stop shop that provides multiple services, allowing users to access them in a centralized location rather than in different places.

In 2023, there were more than 20 million visits to the General Access Point, almost four million less than in the previous year.

The General Access Point provides access to 'My Citizen Folder'. It is a personal online platform (accessible on its website or app) that helps citizens interact with public administrations. Here, citizens can access various personal information, check their past appointments, view their educational records, and see any unread notifications. In 2023, the Citizens' Folder at the General Access Point received 19 million visits.

The General Access Point also provides access also to the General Point for Notifications or Single Enabled Electronic Address (DEHú). This platform allows citizens to conveniently access their notifications and communications from public administrations in one central location.

The General Access Point also has a dedicated section that provides information on national rights, obligations and rules related to the European internal market, in line with the provisions of the Single Digital Gateway Regulation and Commission guidelines.

eGovernment Portal

The eGovernment Portal (PAe) is a centralised information point focussing on the current situation of eGovernment in Spain. Here one can find news and events, reports, studies, legislation, organisations, strategies, and reusable ICT solutions.

In 2023, there were more than 197 754 visits to PAe, and nearly 62 885 registered users.

One of the sections on the eGovernment Portal is the OBSAE, i.e. the 'Observatory of Electronic Administration and Digital Transformation'. OBSAE publishes indicators on electronic administration, carries out regular studies, and produces reports and technical notes on the implementation and use of ICT in public administration and the progress of electronic administration.

DATAOBSAE is an OBSAE tool that offers a public dashboard of electronic administration indicators for the public administration bodies, based on data from horizontal services or external sources. It presents evolution of indicators, tables and maps that are updated monthly.

Another relevant area within the eGovernment Portal is the Centre for Technology Transfer (CTT). It publishes a comprehensive directory of reusable applications and solutions to encourage the implementation of eGovernment at all administrative levels. It is linked with the European portal Joinup.

The catalogue of eGovernment services offered by the Secretariat-General for Digital Administration is included on the website and describes the common services and infrastructures offered to public administration bodies.

My Citizen Folder

The Ministry of Economic Affairs and Digital Transformation has deployed a new app called My Citizen Folder, available to citizens on Android and IOS. The app has been very well received by the public. In the updated My Citizen Folder, under the My Topics section, users can now access information about the last year of their working life, the environmental rating of their vehicles,

and also obtain documentation related to social benefits, its history and the level of dependency. In the Records tab, users can access files from various public administrations. The app is currently linked to the majority of State administration bodies, all 17 autonomous communities, and two autonomous cities. Additionally, the notification service alerts users about important events like the expiration of documents (e.g.ID card or driver's license) or appointments (e.g. vehicle inspections).

Electronic Notifications

Administrative notifications are usually sent electronically through the official website of the administration or organisation, or via the unique enabled electronic address (DEHu), or through both systems, based on the preferences of the notifying entity.

The Single Authorised Electronic Address (DEHu) is the point of notification for all public administrations. Citizens therefore have easy access to notifications and communications issued by public administrations in the exercise of their activity.

In 2023 a total of 116 million deliveries were made, which is an increase of over 20 million deliveries compared to 2022. Some examples of deliveries include: notifications, administrative resolutions, communications of official matters without legal relevance, and so on.

@podera and Habilit@

Some digital services allow for the electronic identification of representatives:

- *@podera* is an online electronic registry for powers of attorney and other forms of representation. It allows citizens to authorise third parties to act in their name, online or offline, in public administrative proceedings. The total number of shortlists (principal, proxy, and procedures subject to the power of attorney) registered in the Electronic Registry of Powers of Attorney in January 2024 is 173 372.
- *Habilit@*(En@ble) is a registry of civil servants with the authority to issue certified copies of documents and present requests online on behalf of users who are not required to do so personally.

eInvoicing

Law on eInvoicing

Law No. 25/2013 mandated the use of electronic invoices as well as an accounting record of invoices in the public sector. It obliged all public entities to receive all invoices through one common point of entry regardless of their different units and departments. This common point of entry shall be made publicly available.

In accordance with this law, and as of 15 January 2015, all invoices sent to public sector entities must be electronic. They should have a structured format (Facturae V3.2. X) and be signed with an electronic signature based on a qualified certificate.

The law also requires all public administration bodies to have an invoice accounting record which keeps track of all invoices received, unpaid bills, for knowledge of accounting units and the Spanish Tax Agency (AEAT). The use of accounting records became mandatory as of 1 January 2014.

Electronic Invoicing

FACe is the information system that allows suppliers to submit invoices to public administrations electronically and track invoices through the portal while following their status in real-time.

FACe has been used by the vast majority of public administration bodies in Spain.

In 2019, the Secretariat-General for Digital Administration, in collaboration with other administrative bodies and the private sector within the CEF EUROFACE project, developed the necessary technology to support European data in new formats, in addition to the Facturae format, which is already supported. As a result of this, the European invoice formats UBL 2.1 and CII (Cross Industry Invoice) are also supported.

During 2023, around 17.67 million invoices for public administrations have been presented at FACe. More than 50% are issued to regional and local administrations.

eHealth and Social Security

Barcelona Health Hub

Barcelona Health Hub (BHH) is a non-profit association that aims to advance innovation in digital health and transfer its benefits to the health sector. BHH fosters interaction between its 500+ members, including startups, public and private healthcare institutions, universities, large corporations and investors to accelerate the digital transformation of the health industry. The Hub is recognised as an international reference centre in digital health, attracting innovation and talent. BHH is situated in the remarkable architectural complex designed by Lluís Domènech i Montaner, which housed the Hospital de la Santa Ireu i Sant Pau for nearly a century. It occupies four pavilions in the complex, blending Art Nouveau with cutting-edge digital health technologies.

Other Key Initiatives

Legislation on eJustice

Democracy and the administration of justice are strengthened with the aid of new electronic tools. Citizens have the right to a public service that is agile, transparent, responsible and that fully complies with constitutional values. One of the essential means to achieve this is through the new Judicial Office, whose prime objective is the rationalisation and optimisation of resources that will assist in the administration of justice.

Royal Decree No. 396/2013 of 7 June 2013 regulated the National Technical Committee for the Electronic Administration of Justice.

Order JUS/1126/2015 of 10 June 2015 created the Electronic Judicial Office, which is the official website that provides electronic access to the administration of justice to citizens and professionals.

Order on Representation and Empowerment

In 2021, threes orders were adopted on the matters of representation and empowerment:
- Order PCM/1384/2021, of December 9, which regulates the Electronic Registry of Powers of Attorney in the scope of the General State Administration. This register makes it easier for another person to carry out procedures on behalf of the interested party, after filling in an electronic power of attorney;
- Order PCM/1383/2021, of December 9, which regulates the Register of Authorized Civil Servants in the field of the General State Administration. This law allows people who, for any reason, cannot access the services of the public administration electronically, do so with the same rights and guarantees, with the help of a civil servant; and
- Order PCM/1382/2021, of December 9, which regulates the General Electronic Registry within the scope of the General State Administration.

Order on Electronic Voting

Order ICT/140/2019 of 14 February 2019 sets out the conditions for the exercise of electronic voting in the electoral process for the renewal of the council of the Official Chambers of Commerce, Industry, Services and Navigation.

Spanish Tax Agency Payment Platform

The Spanish Tax Agency Payment Platform enables users to do online payments, as long as they have an account in one of the banks integrated into the platform. Online payment using credit cards is also allowed. This platform can be integrated into the State electronic services. Another resource available to other public agencies is the Electronic Payment Service of Red.es.

Payment Gateway

The common solution Payment Gateway (Pasarela de Pago), available to all public administration bodies through the Centre of Technology Transfer (CTT), facilitates the use of the Spanish Tax Agency Payment Platform in any public procedure.

In 2023, 29 organisations used the gateway and 1.64 millions payments were made through the Payment Gateway in 2021.

Consular Digitalisation Plan

The General Foreign Service Directorate of the Ministry of Foreign Affairs, European Union and Cooperation will promote a set of applications, infrastructures and content that will fully transform the consular service. The initiative is framed within the Recovery, Transformation and Resilience Plan of the government of Spain and its primary objective is to facilitate electronic access to the Ministry's services by Spanish citizens and non-citizens abroad. For this, a new electronic office will be deployed that will allow the electronic processing of some of the most common consular procedures.

Digital Public Services for Businesses

SMEs Digitisation Plan 2021–2025

Presented in January 2021, the SMEs Digitisation Plan is part of the higher-level strategy Digital Spain 2025 as well as one of the components of Spain's Recovery, Transformation and Resilience Plan. The plan implies a public investment of EUR 5 billion to accelerate the digitisation of 1.5 million SMEs. It includes measures ranging from basic digitisation to disruptive innovation. The Digital Kit programme is a government initiative aimed to help SMEs adop digital solutions available in the market to significantly enhance their digital maturity level.
Beneficiary SMEs applying for these aids receive a digital voucher with a financial sum, which they can allocate according to their specific needs. They must choose from different categories of digital solutions offered by expert businesses, also known as digitalising agents, that will provide services from the catalogue.
In order to qualify for the Kit Digital subsidy, companies must sign up on the Acelera Pyme platform and complete a self-assessment test on digital maturity. The purpose of this test is to pinpoint the most fitting digital solutions for each SME.

Law on Information Society Services and Electronic Commerce

Law No. 34/2002 of 11 July 2002 on Information Society Services and Electronic Commerce implemented the EU Directive on certain legal aspects of Information Society services, in particular the ones related to electronic commerce contained in the Internal Market (Directive 2000/31/EC on electronic commerce). Law No. 34/2002 was amended in 2014 in several aspects, regarding codes of conduct, commercial communications, rights of the receivers, responsibilities of the service providers and sanctions, among others. Law No. 56/2007 on measures to promote Information Society modified the Law on Information Society Services and Electronic Commerce by establishing an eAccessibility obligation. Law No. 56/2007 was amended in 2013 to modernise several aspects regarding electronic invoicing.

Public Procurement

General State Administration Plan for Green Public Procurement

The Spanish government adopted the General State Administration Plan for Green Public Procurement. The Plan was approved by Order of Presidency PCI/86/2019 of 31 January 2019.
The plan responded to the need to incorporate environmental criteria in public procurement, so that public administration bodies can carry out their activities and contribute to the economic and environmental sustainability objectives.
The main objectives of the plan are: (i) promoting the acquisition by the public administration of goods, works and services with the least environmental impact; (ii) serving as an instrument to promote the Spanish Circular Economy Strategy; (iii) guaranteeing a more rational and economic use of public funds; (iv) promoting environmental clauses in public procurement; and (v) publicising the possibilities offered by the legal framework of green public procurement.

Law on Public Sector Contracts

Law No. 9/2017 on Public Sector Contracts transposed European Parliament and Council Directives 2014/23/EU and 2014/24/EU of 26 February 2014 into Spanish law. It entered into force on 9 March 2018.

Central Government eProcurement Platform and Related Services

The *Plataforma de Contratación del Sector Público* (PCSP) is the main point of access to information on the contractual activity of the public sector and is the responsibility of the General Directorate of State Assets (*Dirección General del Patrimonio del Estado*), under the Ministry of Finance. It provides eNotification, eTendering and eAward services. It also provides customised electronic document searches and distribution services and electronic communication facilities for both economic operators and contracting authorities. The PCSP is mandatory for central government authorities and bodies but is also used by many regional and local administrations. Public sector contracting bodies are required by law to publish suppliers' profiles on this platform. Regional administrations and local entities may publish their profiles in the public sector procurement platform or maintain their own.

As of 1 January 2014, the procurement platform published information about procurement available for reuse on bids published. This data set is updated daily in the portal.

Centralised Contracting Portal

The State Centralised Contracting Portal (*Portal de Contratación Centralizada*) constitutes a model for contracting supplies, works and services, which are contracted in a general way and with essentially homogeneous characteristics by the entities and agencies of the public sector referred to in Article 229.2 of Law No. 9/2017, of November 8, on Public Sector Contracts (LCSP). Information regarding the Central Government eProcurement Platform and related services can be accessed through the portal's website. In fact, it is specifically dedicated to the centralised procurement system in which all information related to framework agreements, contracts based on framework agreements and centralised contracts is provided. All existing catalogues are published on the portal, and their characteristics and prices can be viewed, as well as guides, forms and information for institutions and companies on how to join the centralised procurement system.

Official Registry of Bidders and Classified Companies

The ROLECE (*Registro Oficial de Licitadores y Empresas Clasificadas)* provides eCertificate-related services to both economic operators and contracting authorities. An eCertificate or eAttestation is documentary evidence provided by a third party in an electronic format. The electronic form is then submitted to an economic operator to demonstrate compliance with formal requirements in specific contracting procedures. These documents are relevant for the economic operator to prove their suitability to the contracting authority.

The system eClassification is related to ROLECE and it allows economic operators to provide all the necessary documents to apply for a specific classification electronically. They can, for example, submit a compliance document proving that a candidate or tenderer has the legal and financial capacities and the technical and professional skills to perform specific contracts.

Register of Public Sector Contracts

All public sector contracting authorities are obliged to submit information regarding contracts to this centralised system for statistical purposes.

Regional and Local eProcurement Platforms

Six regional governments (autonomous communities and autonomous cities) have their own eProcurement platform. In local governments, a mix of national, regional, or local eProcurement platforms is used. Specifically, 12 regional governments are hosted on the Public Sector Procurement Platform.

Digital Inclusion and Digital Skills

National Plan for Digital Skills

The third Plan for Digital Skills was presented in January 2021 within the framework of the Digital Spain 2025 strategy. It develops components 19, 20 and 21 of the Recovery, Transformation and Resilience Plan and aims to increase digital training among Spanish citizens and workers, as a way to reduce unemployment by creating high-quality jobs while improving productivity, competitiveness and reducing social, geographical, and gender gaps. It relies on a public investment of EUR 3.75 billion. In this respect, the government has promoted university

chairs, existing or newly created, dedicated to research, dissemination, teaching and innovation on Artificial Intelligence (AI) within the framework of the AI Chairs Program project.

Royal Decree on Accessibility of Websites

In September 2018, Royal Decree No. 1112/2018 of 7 September 2018 on the accessibility of public sector websites and mobile applications, approved at the proposal of the Ministries of Territorial Policy and Civil Service, Economy and Enterprise and Health, Consumer Affairs and Social Welfare, was adopted, thus transposing the European Directive No. 2016/2102.

5. Trust and Cybersecurity

eID and Trust Services

Public Administration Digitisation Plan 2021–2025

The previous Digital Transformation Plan for the General Administration and its Public Agencies (ICT Strategy 2015–2020) stated that all digital services of the central State administration must have a common eIdentification system through shared keys. The Cl@ve system was approved by the agreement of the Council of Ministers at its meeting on 19 September 2024.

Following this line of action, the Spanish government incorporated Cl@ve in all digital services that require eIdentification. Additionally, it has been expanded to all administrative levels and can be used by any interested public administration body.

Furthermore, Cl@ve allows for people's identification with their National Identity Document (DNI and other eCertificates) and offers the possibility of signing in the cloud with personal certificates held on remote servers. Cl@ve is also integrated into eIDAS, the electronic identities cross-border recognition system, thus providing other EU countries' identification mechanisms. Cl@ve and certificates in general will evolve in order to ensure cross-border use and improve both interoperability and reuse at all administrative levels.

As of January 2024, 7 077 organisms had adopted Cl@ve.

Moreover, one of the measures included in this plan for the digitisation of the public sector is a new model of eID, providing citizens and businesses with an easier access to digital identification means. A simple and safe way to control how much information you want to share with services that require sharing of information. A pilot programme has already been launched at the university level to test the National Digital Identity Wallet. The goal is to gather feedback on its practical use and assess the possibility of implementing it more broadly, in line with the European Union's advancements, particularly the Architecture and Reference Framework (ARF) of the future European Digital Identity Wallet (EUDIW). So far, there have been more than 11 000 downloads and 635 active wallets.

Law on Electronic Trust Services

On 11 November 2020, Law No. 6/2020 on Electronic Trust Services was published in the Official Gazette. The objective of this law is to complement the eIDAS Regulation (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) regulating certain aspects of electronic trust services. This law also repeals Law No. 59/2003 on electronic signature.

Common Administrative Procedure of Public Administrations

The citizen identification and signature systems interacting with public administration bodies are included in Articles 9 and 10 of Law No. 39/2015, of 1 October 2015, on the Common Administrative Procedure of Public Administration Bodies.

Citizens can choose between different identification systems (i.e. proof of identity), using a certificate, electronic ID or shared keys, based on the use of a key chosen by the user and a PIN notified by text message and upon user registration.

The Resolution of the Secretariat-General for Digital Administration regulates the conditions for use of non-cryptographic electronic signatures by citizens and business in their relations with administrative bodies of the central administration.

National eID Card

The National eID Card (DNIe) makes it possible to digitally sign electronic documents and contracts, identify and authenticate citizens in a secure digital environment, and provide them with easy, straightforward, fast and convenient access to eServices. The card is valid for 10 years although digital certificates must be updated every 2.5 years. Most government bodies (central government, regions and municipalities) and businesses provide eServices enabling the use of the DNIe.

Article 9 of Law No. 39/2015 requires public administration to accept identification systems based on qualified electronic certificates issued by service providers included in the trusted lists of qualified trust service providers, as those included in the DNIe. The new DNIe 4.0 complies with the European format.

Public Certification Authority

The Spanish government has set up a Public Certification Authority (CERES), which issues digital certificates to be used in electronic administrative transactions. It offers a range of services that are essential to the proper functioning of Public Key Infrastructure (PKI) and for the implementation of the electronic signature.

Other Certification Authorities

Other certification authorities are recognized by public administration bodies, which are included in the trusted lists of qualified trust service providers. Some of them provide their services to regional public administrations such as: Generalitat Valenciana (ACCV), Consorci AOC (CATCert) or IZENPE.

Cl@ve

Cl@ve, linked to the national eIDAS node, is a shared platform for identification, authentication and electronic signature. It is a horizontal and interoperable system that avoids public administrations having to implement and manage their systems for authentication and citizens having to use different methods of identification when interacting electronically with different administrative bodies.

Cl@ve supplements the current electronic access systems for public services which are based on the DNI-e (electronic ID card) and electronic certificates. It also allows for identification using shared keys and cloud-based logins with personal certificates stored on remote servers.

More than 7 000 public organisations have adopted Cl@ve. The total number of authentications in January 2024 was 70 082 954.

The Tax Agency has developed the Cl@ve PIN application for mobile devices (Android and IOS). With this app, citizens can view the previously obtained PIN codes from the browser or from a mobile application integrated with the Cl@ve PIN.

@firma – MultiPKI Validation Platform for eID and eSignature Services

@firma, the MultiPKI validation platform, provides free eID and electronic signature services to eGovernment applications. This national validation platform provides a secure service to verify the state and validity of all the qualified certificates allowed in Spain, as well as the electronic signatures created by citizens and businesses in any eGovernment service. It is offered as a cloud service to national, regional and local eGovernment services, as well as open software that can be installed by agencies with a high demand of signature services. **It can also be used through the cl@ve system.**

VALIDe

VALIDe is an online service offered directly to final users, such as citizens, where they can validate electronic signatures and certificates through a web interface. It is a key solution for the compliance of the requirements for electronic signature and electronic identification of citizens and administration bodies established by Law No. 39/2015 and Law No. 40/2015.

eIDAS node

Spain was the first country to have an eIDAS node available and one of the first to notify an identification scheme (DNIe). The integration with eIDAS is done through Cl@ve 2.0 services that are aligned with the eIDAS Regulation.

Moreover, in relation with the eIDAS Regulation and under the CEF Telecom Programme, the following projects have been implemented in Spain:

- The SEMPER project, carried out by the General-Secretariat for Digital Administration and other European partners. It aims to provide solutions for cross-border powers of attorney and eMandates. In particular, the action will define the semantic definitions of mandate attributes and enhance the eIDAS Interoperability Framework for connecting national mandate management infrastructures. Thanks to this, service providers will be able to allow the representation of legal or natural persons within their eIDAS enabled services,

while eIDAS node operators will be able to access national mandate infrastructures as attribute providers (apart from connecting their national identity providers);

- EID4Spain, which will connect the eServices from four Spanish local and regional administrations with the Spanish eIDAS node via CL@VE 2.0 in order to enable cross-border authentication in line with the eIDAS Regulation;

- The eIDAS Regulation, adopted in 2014, which lays the groundwork for cross-border electronic identification, authentication and certification on EU websites. The aim is to make all public services accessible to citizens online by 2030, in line with the objectives of the 2030 Digital Decade; and

- The eIDAs2 Regulation, which received its final approval from the European Parliament on 29 February 2024. The objective is to offer citizens a European digital identity wallet.

Cybersecurity

National Cybersecurity Strategy

In 2019, the National Security Council approved a new National Cybersecurity Strategy that further expanded the National Security Strategy 2017. The 2019 strategy takes into consideration technological changes and includes provisions for the creation of a National Cybersecurity Forum to foster the collaboration between public and private entities.

The strategy's general goal is for Spain to guarantee a secure and reliable use of cyberspace, protecting citizens' rights and freedoms and promoting socio-economic progress. Based on this general goal there are five specific objectives:

- Security and resilience of public sector networks, information and communication systems and essential services;
- Secure and reliable use of cyberspace to ward off illicit or malicious use;
- Protecting the business and social ecosystem and citizens;
- Culture and commitment to cybersecurity, strengthening human and technological skills; and
- International cyberspace security.

Moreover, the government approved the creation of the Security Operations Centre (SOC) for the central administration. The commissioning of this service is strategic to provide the General State Administration with capabilities for prevention, detection and response against cyberattacks.

In addition, to improve the security of local entities against configuration failures and incidents, the National Cryptologic Centre is working on the implementation of Virtual Security Operation Centres (vSOC).

The National Cryptological Centre has recently launched an initiative to consolidate the deployment of the National Network of Cybersecurity Operations Centres. Eleven public bodies participate in this new pilot project to promote the exchange of information related to incidents.

Royal Decree-Law No. 14/2019 of 31 October Adopting Urgent Public Security Measures in Digital Administration, Public sector Procurement and Telecommunications

The Council of Ministers of 31 October 2019 approved Royal Decree-Law No. 14/2019 under which urgent measures were taken, for security reasons, in terms of digital administration, public sector contracting and telecommunications.

Council of Ministers Agreement on Urgent Measures in the Field of Cybersecurity

The Council of Ministers Agreement on Urgent Measures in the Field of Cybersecurity of 25 May 2021, promoted by the Ministry of Economic Affairs and Digital Transformation together with the Ministry of Defence includes: (i) a cybersecurity action plan; (ii) updating the National Security Framework through an urgency process; and (iii) promoting the adoption of security measures for public sector technology providers.

Order TER/1204/2021 of 3 November, approving the regulatory bases and making the corresponding call for 2021 to subsidise local administration digital transformation and modernisation, within the framework of the Recovery, Transformation and Resilience Plan, as well as the distribution of funding to Regional Governments plus Autonomous Cities of Ceuta and

Melilla, foresee the development of cybersecurity prevention, detection and response capabilities in public administrations as a priority.

Decree No. 43/2021

Decree No. 43/2021, which was introduced on 26 January 2021, develops Executive Order No. 12/2018 concerning the strategic framework on institutional security of the government's systems of information. It also develops the framework in the area of security-incident handling and security obligations with operators of essential services, in line with the EU NIS Directive.

More specifically, it addresses the designation of competent cybersecurity authorities in relation to the NIS Directive and develops the protocols for cooperation and coordination between the computer security incident response teams (CSIRTs) and between the CSIRTs and the national competent authorities, among others.

Law on the Protection of Personal Data

Organic Law No. 03/2018 of 5 December 2018 on the Protection of Personal Data incorporates new aspects that affect not only citizens but also the public and private sectors. It complements Regulation (EU) 2016/679 of the European Parliament and of the Council, of 27 April 2016.

Regarding the digital government, Title X contained information about the digital rights and freedoms of the internet environment. These rights included neutrality and universal access or rights to security and digital education, as well as rights to oblivion, portability and the digital testament. The right to digital disconnection within the framework of the right to privacy in the workplace, and the protection of minors in the internet along with the guarantee of freedom of expression, and the right to the clarification of information in digital media were also included in this title.

Organic Law No. 3/2018 introduced minor amendments to Law No. 39/2015 of 1 October 2015 on the Common Administrative Procedure of Public Administrations, which reinforces the role of the National Security Framework (ENS) on the protection of personal data and facilitates the application of the Once-Only principle.

National Security Framework

Security is one of the principles included in Law No. 40/2015 on the public legal system. The ENS, regulated by Royal Decree No. 311/2022 (superseding the previous Royal Decree No. 3/2010), covers the basic principles, minimum requirements and security measures to be applied by the public sector for the protection of services and information within the scope of the Law No. 40/2015.

The new National Security Framework is applicable to the whole public sector and to private sector entities that collaborate with it in the provision of public services as providers or technology suppliers as well as to classified information. An exhaustive review of the basic principles, minimum requirements and security measures has been carried out. Significant novelties include specific compliance profiles, improvements in the treatment of security incidents – including clarification of the role of the main actors involved – a new codification system for the security measures requirements and their reinforcements to facilitate application and compliance, and new security measures in relation to the protection of cloud services, protection of the supply chain, vigilance in relation to security events and attacks, among others.

Worth mentioning is that the ENS established the CCN-CERT (attached to the Spanish National Intelligence Centre) as the Spanish Government Computer Security Incident Response Team (CSIRT). There are independent certification bodies than should be ISO/IEC 17065-certified by ENAC (*Entidad Nacional de Acreditación* – National Accreditation Entity). In 2018, the ENS Certification Board (CoCENS) was set up. It is a body that brings together stakeholders to ensure that the ENS certification is properly implemented and that certification processes are promoted in the public and private sector.

Security Policy of the Services provided by the General Secretariat for Digital Administration

The Resolution of 7 July 2021 adopted the Security Policy for the Services provided by the General Secretariat for Digital Administration. Its purpose is to identify responsibilities and set principles and guidelines for an appropriate and consistent protection of information services and assets managed by the General Secretariat of Digital Administration using information and communication technologies. It also aims to organize the relevant security documentation. The

General Secretariat of Digital Administration relies on this instrument to ensure the secure use of information systems and communications in the exercise of its powers.

5G Cybersecurity Law

On 29 March 2022, the plenary session of the Spanish Lower House of Parliament approved the 5G Cybersecurity Law, which establishes specific cybersecurity requirements for the roll-out and operation of the 5G network. The 5G Cybersecurity Law sets out the strategic and technical measures of the toolbox agreed by the Member States of the European Union into the Spanish legal framework. The toolbox identifies the main threats and vulnerabilities, the most sensitive assets and strategic risks in the roll-out of 5G networks.

RETECH Cybersecurity

RETECH Ciberseguridad is a Spanish strategic initiative to develop the cybersecurity ecosystem in terms of capabilities, industry, R+D+i, talent, and so on. The first phase will see INCIBE working in conjunction with 15 autonomous communities. The RETECH Cybersecurity programmes aim to attract and cultivate talent in the cybersecurity sector by providing training in cybersecurity at both the supply and demand levels. In addition, initiatives will be launched with the aim of training and raising the awareness among the public about basic cybersecurity skills for safe and proper use of new technologies.

Cybersecurity Operations Center

This initiative involves establishing a Cybersecurity Operations Centre for the entire General Administration of the State and its public bodies. The main task of this centre will be to safeguard against cybersecurity threats and cyberattacks. The aim is to enhance the ability to prevent, detect and respond to security incidents, as well as to improve the ability to track and detect cybersecurity threats more effectively in a centralised manner. This endeavour is expected to result in substantial savings in terms of finances, labour and time.

AI tools will be integrated into the COCS platform to enhance threat detection and response capabilities. By applying AI-powered analysis and machine learning technologies, the platform will improve the identification of patterns, anomalies, and potential threats more efficiently.

6. Innovative Technologies

Artificial Intelligence (AI)

Artificial Intelligence National Strategy

The National Strategy for Artificial Intelligence (ENIA), launched in 2020, focuses on 20 measures across six strategic axes. This strategy has positioned Spain as an attractive hub for investments and international talent.

1) The first strategic axis focuses on the promotion of scientific research, technological development and innovation in AI. It includes initiatives and projects such as:
   - Spain Neurotech. This centre will be a trailblazer in Spain and a model in Europe for advancing the treatment of chronic diseases in their early stages, as along with neurodevelopmental disorders, Parkinson's, Alzheimer's, depression, and acute brain damage. There are only five research centres in the world specializing in this field. Additionally, it will feature a department focused on neuroethics. Situated on the Cantoblanco campus of the Autonomous University of Madrid, the headquarters will have accommodate approximately 200 people, including researchers and support staff;
   - R&D Missions in Artificial Intelligence. Endowed with EUR 50 million, these missions have funded five projects focusing on agricultural production, health research, personalized medicine, diseases related to aging, and sustainable energy transition. Each mission involves a consortium comprising a major company as the coordinator, a public research body, and at least five SMEs. In total, 78 entities from 22 different provinces are collaborating on these five selected projects;
   - Territorial Networks of Technological Specialization (RETECH). EUR 258.8 million have been allocated for 13 AI projects in various fields, in collaboration with all the autonomous communities. The projects related to AI include: acceleration of entrepreneurship and innovation ecosystems based on digital twins; digitisation of historical heritage, and smart rural territory; and
   - Network of Excellence. Before the summer of 2023, the Spanish Network of Excellence in AI will be announce a call for grants worth EUR 32 million. The goal is to support talent and attract international professionals.

2) ENIA's second strategic axis aims to promote the development of digital skills, enhance national talent and attract global professionals. It encompasses initiatives such as:
   - Spain Talent Hub. It aims to attract and retain AI talent in top Spanish centres and foster new research opportunities with high potential. As part of this initiative, agreements have been announced with ADIA Lab, TEC de Monterrey, and the University of Oviedo.
   - Artificial Intelligence Chairs. In 2021, the Chair of Artificial Intelligence and Democracy at the Institute for European Governance and the European University Institute was established, with a budget of EUR 1.4 million. The ENIA Chairs also have a budget of EUR 16 million for researching and promoting the use of AI in various fields. Funding is expected for at least eight national and eight international university chairs in business faculties.

3) ENIA's third strategic axis has the objective of developing data platforms and technological infrastructures to support the development of AI. Some projects include:
   - Quantum Spain. A robust quantum computing infrastructure is under construction in Spain with the creation of the first quantum computer in southern Europe. The contract for the computer has been granted, and it will be set up at the Barcelona Supercomputing Centre (BSC-CNS) to be integrated with the MareNostrum 5 supercomputer, which is Spain's most powerful and one of the most advanced in the world. This initiative includes 25 centres across 14 autonomous communities, some of which are part of the Spanish Supercomputing Network.
   - Spanish Language in AI (LEIA). Promoted by the Royal Academy of the Spanish Language (RAE) and the National Language Plan, EUR 5 million have been allocated to promote the Spanish language as an economic engine. It includes the development of linguistic verification and autoresponder tools, the collection of material based on the different varieties of Spanish, and the development of measures that ensure the full accessibility

of AI-related tools for people with disabilities. Along these lines, the Observatory for the Development of AI in Spanish will also be established, with a budget of EUR 1.3 million, to assess the progress and level of advancement in Spanish-language AI compared to English-language AI. In addition, EUR 7.5 million will be allocated to fund projects in co-official languages. The aim is to create a multilingual corpus enabling the use of applications and technologies in all languages spoken within the country.

4) ENIA's fourth strategic axis focuses on integrating AI into value chains to transform the country's economic structure. It includes:
   - National Green Algorithms Programme. Presented in December 2022, this initiative introduces a Green by Design AI approach. It aims to integrate environmental sustainability variables right from the start of developing the algorithm. It revolves around four strategic axes: promoting energy efficiency in AI model development, using eco-friendly infrastructures and services, incorporating green technology and blockchain in production, and boosting the Spanish market with environmentally conscious AI. This programme is scheduled to operate from 2023 to 2025, with a budget of EUR 257.7 million.
   - AI in Value Chains. EUR 105 million have been invested in industrial research and experimental development projects to incorporate AI into the production processes of the economy's value chains. 217 companies received funding, 75% of them are SMEs.
   - Next Tech Fund. It is dedicated to the development of innovative, high-impact digital projects, including in the field of AI. It fosters investments in growing companies, with the aim to mobilise up to EUR 8 billion in public-private partnerships.

5) ENIA's fifth strategic axis aims to promote the use of AI in public administration and in national strategic missions. To this end, the GovTechLab (an innovation lab for new services and applications of AI in public administration) has been launched. It aims to connect innovative companies with the administration, provide a space for controlled experimentation of emerging technologies, and promote citizen participation.

6) The sixth and final strategic axis aims to create an ethical and regulatory framework that enhances the protection of individual and collective rights, promoting inclusion and social well-being in a society where AI is increasingly common. Various initiatives have been developed for this purpose, including:
   - National Plan for the Protection of Vulnerable Groups in AI. Its purpose is to minimise discrimination caused by the application of intelligent systems that have been designed with biases.
   - IA Seal. Spain is developing a national seal of quality to be awarded to companies that apply AI systems and algorithms in an ethical, non-discriminatory and reliable way. This seal will be voluntary for companies, showing their trustworthiness to customers and users.

Spanish Agency for the Supervision of Artificial Intelligence

Law 22/2021 of 28 December on the General State Budget for the year 2022, in its additional provision 130, includes the 'creation of the Spanish Agency for the Supervision of Artificial Intelligence'. The headquarters of this soon-to-be-established agency will be in A Coruña.

National Greeen Algorithms Program

The National Green Algorithms Program (PNAV hereinafter) is measure 20 of the National Artificial Intelligence Strategy 2 (hereinafter ENIA), located in Strategic Axis 4 'Integrating artificial intelligence into value chains to transform the economic fabric' and aligned with Social Challenge 2 of the same strategy "Fostering the ecological transition and reducing the carbon footprint".

RDI Strategy in Artificial Intelligence

On 2 December 2020, the Ministry of Science and Innovation released the RDI Strategy in Artificial Intelligence which establishes a series of priorities under the Spanish Strategy for Science, Technology and Innovation (EECTI) 2021-2028. These priorities will lead to initiatives and activities defined and financed through the Science, Technology and Innovation Stares Plans (PECTI), mobilising the synergies between the different levels of public administration and through the co-development of the public and private sectors. This is a condition for the development of

AI technologies and applications linked to this Strategy to avoid negative bias and prejudices, relating, among others, to gender, race or other forms of discrimination, and of which the decision-making systems of AI should be free.

Royal Decree-Law 9/2021 on Algorithms, Artificial Intelligence and Employees' Rights

On 11 May 2021, Spain adopted Royal Decree-Law No. 9/2021 (BOE-A-2021-7840), amending the consolidated text of the Worker's Statute Act. In particular, the decree-law provides one article and two provisions aiming to guarantee the employment rights of people working in digital platform distribution, as well as the right to information of the representatives of these employees. Specifically, the decree-law introduces the right of works councils to be informed by the company about the parameters, rules, and instructions on which the algorithms or artificial intelligence systems are based that affect decision-making and may, in turn, influence the working conditions, access to, and maintenance of employment, including profiling.

Furthermore, the decree-law introduces a new additional provision on the presumption of employment in the field of digital platform distribution. Specifically, the provision highlights that the relationship between people who carry out remunerated services consisting in the delivery or distribution of products, on behalf of an employer who manages business activities through algorithmic management of the service and working conditions through a digital platform, is considered an employment relationship and therefore falls within the scope of the law.

Robotic Process Automation

Although it is not considered purely AI, a Robotic Process Automation (RPA) technology is a first step towards achieving AI. Indeed, this platform provides service to projects from all central administration departments. For example, with the Intelligent Automation Service (SAI), the Ministry of Economic Affairs and Digital Transformation and Instituto Cervantes have started a project to apply RPA in student enrolment processes. This initiative will allow to minimise manual intervention and reduce the committed period of 72 hours between the acquisition of the course and the effective enrolment.

Software Robot for Social Security

Within the new Strategic Plan for the Labour and Social Security Inspection (ITSS), on 1 January 2022 Social Security launched a software robot that will automate labour inspections using artificial intelligence and massive data analysis. This way, citizens will be able to track the most frequent Social Security contribution infractions, which leave traces in the databases.

Distributed Ledger Technologies

Participation in the European Blockchain Service Infrastructure

Spain is involved in the European Blockchain Service Infrastructure (EBSI) project. As an early adopter, Spain launched a pilot project in October 2021. This pilot project showcased the use of a verifiable identity credential prior to identification with a digital certificate, along with the use of a verifiable credential for a diploma from the Rovira i Virgilli University. In addition it developed a verifiable credential for a title register. The outcomes of this pilot, along with two demonstration videos (1 & 2), where shared with the European Commission.

The third goal of the Public Sector Digitisation Plan 2020–2025 aims to develop personalised and innovative public services aligned with European initiatives. This includes collaborating with other EU Member States on projects like EBSI (i.e. a blockchain network for secure EU-wide public service delivery), and initiatives involving data and AI. The GovTechLab, outlined in goal No. 3, will provide a blockchain sandbox for administrations to experiment with this technology.

Moreover, on 13 November the Spanish government has approved Law No. 7/2020 for the digital transformation of the financial sector. This law includes the establishment of a regulatory and supervisory sandbox. The Ministry of Economic Affairs and Digital Transformation has received a total of 67 applications in the first call for access to this sandbox. Currently, two solutions have completed the testing phase, one of which focuses on sovereign identity in the private sector.

Regarding regional administrations, the government of Aragon has been a pioneer in using blockchain technology for bidding processes, showcasing its effectiveness.

Digital Europe Programme

The Digital Europe Programme (DIGITAL) is a new EU funding programme that aims to enhance digital technology access for businesses, citizens, and public administrations. The European Commission has adopted the Work Programme for 2023-2024 under the Digital Europe Programme and has issued various calls for proposals to offer funding to Member States. The goal is to support the advancement of digital infrastructure.

In December 2020, the Spanish Association for Standardisation (UNE) published the Standard UNE 71307-1 Digital Enabling Technologies, which describes a decentralised identity management model on blockchain and other distributed registry technologies.

Blockchain GVA corporate

The commercial company Infrastructures and Telecommunication Services and Certification SAU (ISTEC) offers a public blockchain network known as BlockchainFUE, which was created as a cooperative in Valencia in 2020. This cooperative, supported by the BAES research group at the University of Alicante, aims to promote the transfer of knowledge and the adoption of blockchain technology in public administration and businesses through the BlockchainFUE public network. Its goal is to exploit a blockchain network to offer services to 14 cooperative members, including Caixa Popular, ISTEC, the College of Registrars, the Chamber of Commerce of Alicante, and several private companies). It will make it easier for native system to connect with the European Blockchain Service Infrastructure. The Middleware multisystem BlockchainFUE offers services for various use cases.

Big Data

Health Data Lake

The Health Data Lake consists of the creation of the National Health Data Space or 'Sanitary Data Lake'. It collects the information from the different regional information systems. The project entailed collecting information from the information systems of the autonomous communities and the Ministry of Health, with the aim of providing a massive analysis with real-time response capacity for the identification and improvement of diagnosis and treatment, identification of risk factors, analysis of trends, identification of patterns, prediction of health risk situations and resource scheduling for care, including artificial intelligence algorithms, and using new scalable system architectures and new processing and pattern discovery tools. The budget allocated to this initiative is 28 million euros and it is distributed territorially among the autonomous communities.

Cloud & Edge Computing

Cloud Computing Strategy

In measure 7 of the Digitalisation Plan for Public Administrations, there is a focus on developing a strategy for cloud computing services. This strategy aims to establish hosting infrastructures for processing data from various ministerial departments in redundant centres. It will involve consolidating data processing centres by merging internal centres (private cloud) and, if needed, external providers (public cloud). This strategy was approved in 2023.

The strategy consists of seven pillars developed through 19 initiatives and includes the following improvements: hybrid cloud by design, expanding service offerings, prioritising hybrid service provision, data sovereignty, data focus, transitioning systems to hybrid cloud, and ensuring cloud security.

Internet-of-Things (IoT)

IoT Security Guide for Companies

In May 2020, the Spanish National Cybersecurity Institute published the IoT Security Guide for Companies, which details the following topics:

- IoT devices privacy and security threats;
- Security vulnerabilities of IoT device;
- Security measures aimed to protect IoT devices; and
- Safety recommendations that should be applied before employing IoT devices in organisations.

IoT Solutions at Local Administration Level

Most IoT solutions are implemented at local administration level:

- The City of Madrid has created IoTMADLAB, the Internet of Things laboratory of the City of Madrid after an agreement with the Polytechnic University of Madrid. They hope to establish a 'universal language' for Internet of Things (IoT) protocols used in cities. Previously, the City of Madrid deployed a solution to reduce the risk of contagion by coronavirus indoors by measuring the concentration of CO_2 through IoT technology and the use of 0G;
- The Barcelona City Council has participated in a H2020 project called IRIS. The goal is to integrate a single Internet of Things (IoT) platform, which, using artificial intelligence (AI), will support Computer Emergency Response Centres (CERTs) to assess, detect, respond, and share information about threats and vulnerabilities of ICT systems.
- The city council of Gijón has renovated the entire city's public lighting system by installing LEDs and connecting it to the Internet of Things network.

Quantum Computing

Quantum Spain Project

The Quantum Spain project promotes and strengthens the national Quantum Computing ecosystem, with the goal of creating the first quantum computing environment in southern Europe. It is a pioneering project dedicated to promoting and financing a competitive and complete quantum computing infrastructure in Spain. It has three objectives:

1) To develop a high-performance quantum computer, based on a superconducting current-based cubic technology approach;
2) To establish a remote cloud access service for the quantum computer, allowing universities, businesses, and the public sector to experiment with the new quantum algorithms; and
3) To develop practical quantum algorithms for real-world problems. These algorithms will specifically target the advancement of quantum machine learning, closely linked to the progress in AI.

This project is funded by European funds from the Recovery Plan and will be carried out by the Temporary Business Union (UTE) formed by the startup Qilimanjaro Quantum Tech and the Spanish technology company GMV, who have won the public tender. The new quantum computer will be installed in the Barcelona Supercomputing Centre - National Supercomputing Centre (BSC – CNS) and will be incorporated into the MareNostrum 5 supercomputer, which is the most powerful in our country and one of the most advanced in Europe and the world.
The programme started in January 2022 and is expected to run until December 2025.

Gigabit and Wireless High-speed Networks

Plan for Connectivity and Digital Infrastructures and Strategy to Promote 5G Technology

In December 2020, the Plan for Connectivity and Digital Infrastructures and the Strategy to Promote 5G Technology were released. The Plan sets out the operational principles for the objectives set out in the Spain Digital 2025 Agenda: extending ultrafast network coverage to the entire population and preparing 100% of the radio spectrum for 5G by 2025.

UNICO Broadband Programme

The objective of the UNICO Broadband Programme is to extend the coverage of ultra-fast broadband access networks, aiming to reach 100% of the Spanish population. It also seeks to strengthen the terrestrial and submarine interconnection of public entities. The Ministry of Economic Affairs and Digital Transformation has published the final resolution of the second call for the UNICO-Broadband Program, for which 244.6 million euros are awarded to 50 projects.

GovTech

GovTechLab Strategy

The central administration's GovTechLab strategy has been defined and has been launched in the first semester of 2023. For the deployment of the GovTechLab, EUR 27 million were allocated.

The strategy outline three lines of action:

- GTL as an open innovation laboratory that brings new digital solutions closer to major the central public administration challenges. The aim of bringing innovative companies closer to the administration will be done by launching challenges that are posed as a contest of ideas;
- Support blockchain initiatives in Europe with an infrastructure to test services on blockchain and other technologies; and
- A space for collaboration and communication to set up collaborative workshops, share innovation results, materials of interest (studies, and guides, opinions), relations with other innovation units, etc.

One of the initiatives included into GovTechLab is the emphasis on clear communication by the administration. A decalogue of commitments was presented on promoting the use of clear language in public administration websites. The purpose of the project is to develop activities aimed to promote the use of simple language in websites for the general public. In addition, AI will be leveraged to achieve this objective.

GovTech4ALL Consortium

The Ministry of Economic Affairs and Digital Transformation participates in the GovTech4ALL Consortium. Within the framework of the Digital Europe Program, the European Commission has called for the creation of the GovTech incubator, with the aim of promoting a single GovTech market in the EU and promoting new models of innovation in the public sector. The GovTech4ALL Consortium brings together 22 key GovTech players from 15 countries, among which are the following Spanish bodies: the Ministry of Economic Affairs and Digital Transformation, Xunta de Galicia, the Madrid City Council, Gobe and Lantik (a company that participates exclusively by appointment of the Vizcaya Provincial Council for Digital Transformation).

GovTechLab at Regional and Local Level

- *GovTechLab Madrid* is a laboratory bringing the innovation generated by startups, scaleups and digital SMEs closer to the challenges of Madrid's public institutions.
- *GovTechLab Bizkaia* is an open innovation laboratory that brings new digital solutions closer to the great challenges of the Provincial Council of Bizkaia.
- *GobTec Galicia* is Galicia's digital twin, which will allow for simulations and predictive analysis of the impact of societal actions on the environment.
- *GovTech del Ayuntamiento de Madrid* is a municipal GovTech programme composed of an open innovation process and with a total of six innovation challenges that will be defined, for which open calls were launched for the innovation community.

7. Digital Public Administration Governance

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

National

Ministry for Digital Transformation and the Civil Service

The Ministry for Digital Transformation and the Civil Service replaces the previous Ministry of Economic Affairs and Digital Transformation, in accordance with Article 22 of Royal Decree 829/2023, of 20 November 2023, restructuring ministerial departments. The functions of the new Ministry are to define and implement the Government's policy on telecommunications, the information society, digital transformation and the development and promotion of AI. In addition, the Ministry for Digital Transformation and the Civil Service is responsible for proposing and implementing the Government's policy on public administration, public service, and public governance.

Commission for ICT Strategy

The Commission for ICT Strategy approved by Royal Decree No 806/2014 of 19 September 2014, on the organisation and operational instruments for ICT at the State General Administration, is an inter-ministerial body comprised of senior officials, mainly undersecretaries, representing all ministries and the central administration. Its main goal is to ensure the appropriate use of ICT resources based on strategic lines in order to improve the delivery of public services to citizens. It is tasked with the preparation, design and development of the eGovernment strategy and ICT policy.

Ministerial Committees for eGovernment

The Ministerial Committees for Digital Government are responsible for promoting digital governance in public administration. Royal Decree No. 806/2014 of 19 September establishes that each ministerial department features a Ministerial Commission for Digital Administration (*CMAD*) with the purpose of developing the action plan for the digital transformation of the ministry.

National Cybersecurity Council

The National Cybersecurity Council helps the National Security Council with its tasks and duties, particularly by helping the Spanish Prime Minister manage and coordinate the National Security Policy in the field of cybersecurity. The main functions and activities are stated in Decree PRA/33/2018, which sets out the Agreement of the National Security Council regulating the National Cybersecurity Council.
Its main functions are the following:
- Proposing to the National Security Council the guidelines on planning and coordinating the National Security Policy related to cybersecurity;
- Contributing to strengthening the proper functioning of the National Security System in the field of cybersecurity, whose supervision and coordination falls under the scope of the National Security Council; and
- Strengthening the relations with the concerned public administration bodies in the field of cybersecurity, as well as the coordination, collaboration and cooperation between the public and private sectors.

Sectoral Commission of eGovernment

Law No. 40/2015 of 1 October 2015 on the Legal Regime of the Public Sector (BOE-A-2015-10566), established the Sectorial Commission of eGovernment as a technical cooperation body of the General State Administration, the Administration Bodies of the Regional Governments and

Local Entities in matters of electronic administration. Universities also take part in this Commission through the CRUE-TIC representatives.

Its main functions are to:

- Ensure the compatibility and interoperability of systems and applications used by public administrations;
- Promote the development of electronic administration in Spain; and
- Ensure cooperation between public administrations to provide clear, updated and unequivocal administrative information.

National Centre for Infrastructure Protection and Cybersecurity

The National Centre for Infrastructure Protection and Cybersecurity (CNPIC) is the responsible body for the promotion, coordination and supervision of all policies and activities related to the protection of critical infrastructures and cybersecurity under the authority of the Ministry of the Interior. The CNPIC is accountable before the Secretary of State of Security.

The CNPIC was created in 2007 under the Agreement of the Council of Ministers of 2 November 2007. Its competences are regulated by Law No. 8/2011 of 28 April 2011, by which the measures for Critical Infrastructure Protection (CIP) are established, and by Royal Decree No. 704/2011 of 20 May 2011, by which the Regulation on critical infrastructure protection was adopted.

In addition, the Council of Ministers' Agreement of 15 February 2019 established the Cybersecurity Operations Centre for the general State administration. This Centre aims to improve the prevention, detection and response to cyberattacks and incidents.

Committee for Social Security Digital Strategy

The Committee for Social Security Digital Strategy has been created with the objective of coordinating the digital transformation initiatives within the State Secretariat of Social Security. As part of its responsibilities, the Committee developed an action plan for the digital transformation of the State Secretariat, in order to comply with Laws No. 39/2015 and No. 40/2015. The plan provided for initiatives in specific areas such as: digital notifications; authorisation of representatives; public servant registry; normalisation of administrative procedures; electronic registry and organisational change management.

Secretary of State for Digitisation and Artificial Intelligence

The Secretary of State for Digitisation and Artificial Intelligence aims to promote the digital transformation of society, in order to achieve a prosperous, safe, reliable, inclusive growth respecting the rights of citizens, as well as the digital transformation of public administration bodies through the Secretariat-General for Digital Administration.

Article 2 of Royal Decree 210/2024 includes the detailed functions and organisation of the Secretary of State. The Secretariat of State fulfils the functions of promoting and regulating digital services and the digital economy and society, engaging in dialogue with the professional, industrial and academic sectors, encouraging the digitisation of the public sector, as well as coordinating and cooperating with ministries and other public administrations on these matters. In also fulfils the functions of Chief Data Officer.

Secretary of State for Telecommunications and Digital Infrastructure

The Secretary of State for Telecommunications and Digital Infrastructure is responsible for the promotion and the regulation of the telecommunications and audio-visual services sectors and the Information Society. Moreover, it deals with the professional, industrial and academic sectors, and inter-ministerial coordination and cooperation with other public administrations on these matters. It includes regulation and coordination with European and international programmes to promote the regulation, standardisation and certification of digital and telecommunications infrastructures.

Article 7 of Royal Decree 210/2024 includes the detailed functions and organisation of the Secretary of State.

Secretary of State for Public Service

The Secretary of State for Public Function is the body responsible for promoting, directing and managing the Government's policies on public administration and digital administration, public service and public employment, public governance, and organisation. Article 8 of Royal Decree No. 403/2020 and Royal Decree 210/2024, outline the specific functions and organisations of the Secretary of State.

Secretariat-General for Digital Administration

The Secretariat-General for Digital Administration (SGAD), , is a governing body under the authority of the Secretary of State for Public Service. It is responsible for the management, coordination and performance of the powers attributed to the department in the field of digital transformation of administration, including the technical development and application of Law No. 39/2015 of 1 October 2015 on the Common Administrative Procedure of Public Administrations and Law No. 40/2015 of 1 October 2013 and its regulatory rules regarding the electronic operation and functioning of the public sector.
Article 9 of Royal Decree No. 403/2020 and Royal Decree 210/2024, include the detailed functions and organisation of the Secretary of State.

Artificial Intelligence Advisory Council

In July 2020, the Ministry of Economic Affairs and Digital Transformation established the Artificial Intelligence Advisory Council, whose objectives are:
- To advise and inform the Secretary of State for AI and Digital in the proposal and execution of the government policy on Artificial Intelligence;
- To evaluate observations and comments, as well as to formulate proposals on the National Artificial Intelligence Strategy, in order to draw conclusions that will allow the approval of new versions of the strategy;
- To advise on the evaluation of the impact of Artificial Intelligence on the industry, administration and society.

Cybersecurity Operations Centre for the General State Administration

In line with the National Security Strategy and the Cybersecurity Strategy, on 15 February 2019, the Council of Ministers adopted an agreement to create the Cybersecurity Operations Centre for the General State Administration with the objective of providing cybersecurity services and improving response capacity in case of any attack.
Furthermore, the agreement signed by the Secretariat-General for Digital Administration (SGAD) and the National Cryptologic Centre contributed to the creation of the Cybersecurity Operations Centre (Official Gazette, 1 January 2019).

National Cryptologic Centre

The National Cryptologic Centre (CCN) is part of the National Intelligence Centre (CNI). It was set up in 2002 to guarantee ICT security in different public administration entities and security for systems that process, store or send out classified information.
The CCN-CERT is the Information Security Incident Response Capacity of the National Cryptologic Centre, CCN, attached to the National Intelligence Centre, CNI. This service was created in 2006. The Spanish National Government CERT and its functions are set out in Law No. 11/2002 regulating the CNI; Royal Decree No. 421/2004 regulating the CCN, and in Royal Decree No. 311/2022 of 3 May 2022 regulating of the National Security Framework (ENS).
The functions of the CCN-CERT are listed in Chapter IV of Royal Decree No. 311/2022 of 3 May 2022. Its mission is to contribute to the improvement of Spanish cybersecurity, being the national alert and response centre that cooperates and helps to respond quickly and efficiently to cyber-attacks and to actively address cyber threats, including coordination at the State level of the different incident response capabilities or existing cybersecurity operations centres according to Royal Decree-Law No. 12/2018.

FNMT–RCM

The FNMT–RCM (*Fábrica Nacional de Moneda y Timbre)* is the public entity which, in the field of eGovernment, develops its activities as a Qualified Trust Service Provider according to 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.
In February 2019, the Ministry of Finance formalised an agreement with the FNMT–RCM to provide trust services to the general State administration, and continuing the work first started in the late 1990s. This agreement included the following trust services:
- Electronic signature (natural persons, legal persons);
- Electronic seal;
- Website authentication; and
- Qualified electronic time stamps.

Currently, the number of active electronic certificates exceeds eight million. The FNMT-RCM processes more than 166 million validations each month and issues more than 17 million time stamps each month.

Court of Auditors

The Court of Auditors is tasked with controlling the collection and use of public funds. In addition, it performs a jurisdictional function which entails auditing the entities tasked with handling public funds and goods.

Data Protection Agency

The Data Protection Agency (AEPD) is the public law authority overseeing compliance with legal provisions on the protection of personal data. As such, it enjoys absolute autonomy from public administration. It undertakes actions specifically aimed at enhancing citizens' capacity to effectively contribute to such protection.

Subnational (Federal, Regional and Local)

Autonomous Communities

Regional eGovernment initiatives are led and coordinated by the respective Autonomous Communities where a specific body, department, or entity is usually in charge of coordination.
The actor for each regional government can be checked in the list of members in the Sectorial Commission for eGovernment.

Spanish Federation of Municipalities and Provinces

The Spanish Federation of Municipalities and Provinces (FEMP) is a Spanish association of local entities that groups municipalities, provincial councils, and island councils. It promotes the development of digital transformation, among other issues, in local entities and it takes part in the Sectorial Commission of eGovernment.

Sectoral Commission of eGovernment

Law No. 40/2015 of 1 October 2015 on the Legal Regime of the Public Sector (BOE-A-2015-10566), established the Sectorial Commission of eGovernment as a technical cooperation body of the State administration, the administration bodies of the regional governments and local entities in matters of electronic administration. Universities also take part in this Commission through CRUE-TIC representatives.
Its main functions are to:
- Ensure the compatibility and interoperability of systems and applications used by public administrations;
- Promote the development of electronic administration in Spain; and
- Ensure cooperation between public administrations to provide clear, updated and unequivocal administrative information.

8. Cross border Digital Public Administration Services for Citizens and Businesses

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

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

Spain publics this information in "your European espace" in Your rights and obligations in the EU

Life and Travel

For citizens, the following groups of services can be found on the website:
- Travel (e.g. Documents needed for travelling in Europe);
- Work and retirement (e.g. Unemployment and Benefits);
- Vehicles (e.g. Registration);
- Residence formalities (e.g. Elections abroad);
- Education and youth (e.g. Researchers);
- Health (e.g. Medical Treatment abroad);
- Family (e.g. Couples);
- Consumers (e.g. Shopping).

Doing Business

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

The Digital Public Administration Factsheets

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

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

The Digital Public Administration Factsheets are prepared for the European Commission by Wavestone.

An action supported by Interoperable Europe

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

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

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

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