

Digital Public Administration factsheet 2023

Luxembourg



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1 Interoperability State-of-Play

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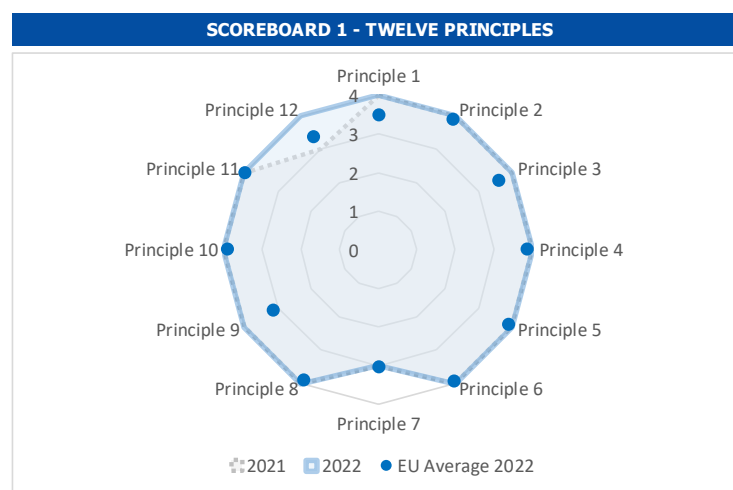
In 2017, the European Commission published the [European Interoperability Framework \(EIF\)](#) to give specific guidance on how to set up interoperable digital public services through a set of 47 recommendations divided in three pillars. The EIF Monitoring Mechanism (MM) was built on these pillars to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

Scoreboard 1 Interoperability Principles		Scoreboard 2 Interoperability Layers		Scoreboard 3 Conceptual Model	
	Recommendation(s) n°		Recommendation(s) n°		Recommendation(s) n°
Principle 1 - Subsidiarity and Proportionality	1	Interoperability Governance	20-24	Conceptual Model	34-35
Principle 2 - Openness	2-4	Integrated Public Service Governance	25-26	Internal information sources and services	36
Principle 3 - Transparency	5	Legal Interoperability	27	Basic Registries	37-40
Principle 4 - Reusability	6-7	Organisational Interoperability	28-29	Open Data	41-43
Principle 5 - Technological neutrality and data portability	8-9	Semantic Interoperability	30-32	Catalogues	44
Principle 6 - User-centricity	10-13	Technical Interoperability	33	External information sources and services	45
Principle 7 - Inclusion and accessibility	14			Security and Privacy	46-47
Principle 8 - Security and privacy	15				
Principle 9 - Multilingualism	16				
Principle 10 - Administrative simplification	17				
Principle 11 - Preservation of information	18				
Principle 12 - Assessment of Effectiveness and Efficiency	19				

Scoreboard 4 Cross-border Interoperability

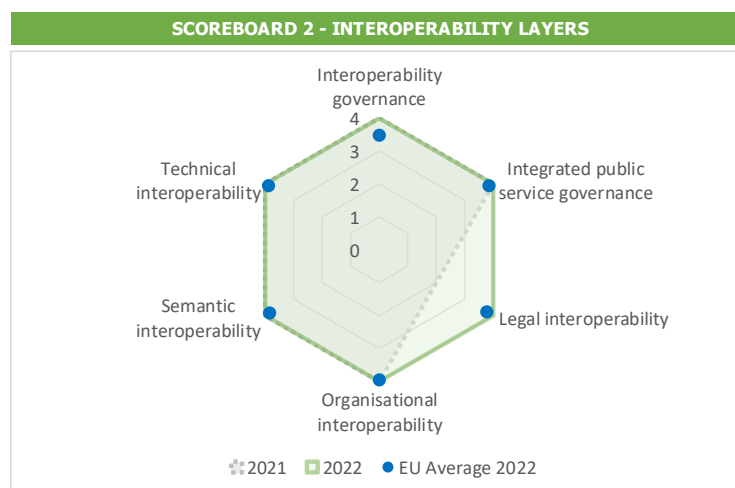
Source: [European Interoperability Framework Monitoring Mechanism 2022](#)

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



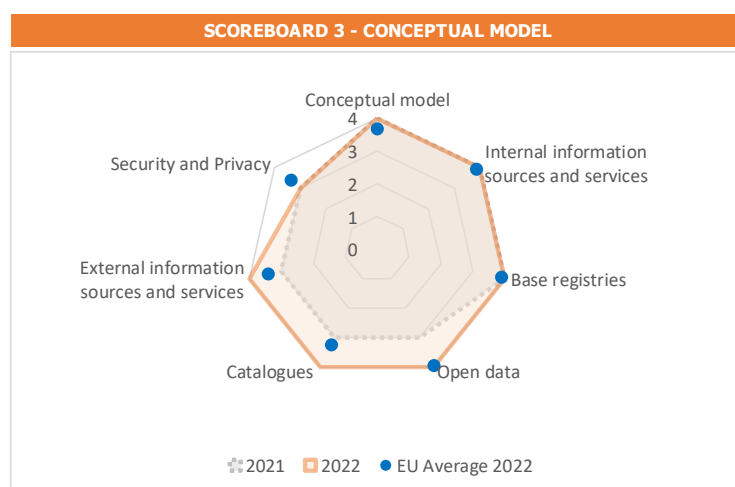
Source: [European Interoperability Framework Monitoring Mechanism 2022](#)

The results of Luxembourg related to Scoreboard 1 show an overall very good implementation of the EIF Principles. Luxembourg has a higher performance in the implementation of Principle 1 (Subsidiarity and Proportionality) and Principle 9 (Multilingualism) in comparison with the EU average. Implementing the recommendations of principle 12 will result in the score rising from 3 to 4 in 2022, which is now above the EU average. The areas of improvement of Luxembourg with regard to Scoreboard 1 are located in Principle 7 (Inclusion and Accessibility). In particular, to ensure that all European public services are accessible to all citizens, including persons with disabilities, the elderly and other disadvantaged groups would allow the country to reach a maximum score of 4 in Principle 7.



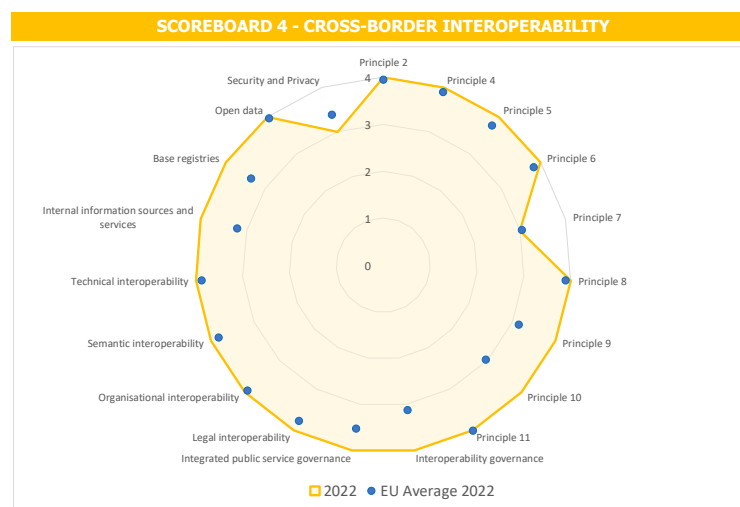
Source: [European Interoperability Framework Monitoring Mechanism 2022](#)

Luxembourg's results for the implementation of interoperability layers assessed for Scoreboard 2 highlight an overall good performance. Luxembourg obtains maximum scores of 4 in all the interoperability layers. In 2022, the performance of the implementation of the legal interoperability recommendations has enabled the layer to go from 2 to 4. The performance could be improved by focusing on perceiving data and information as a public asset that should be appropriately generated, collected, managed, shared, protected and preserved. (Recommendation 30). However, the recommendation has no impact on the score for the "semantic interoperability" layer, which has a score of 4. The overall high scores of Luxembourg demonstrate the strong implementation of almost all the recommendations related to the layers.



Source: [European Interoperability Framework Monitoring Mechanism 2022](#)

The scores of Luxembourg assessing the Conceptual Model in Scoreboard 3 show a good performance in the implementation of corresponding recommendations as it meets the EU average for almost all of them. The area of improvement could be related to Security and Privacy, by focusing on the use of trust services according to the Regulation on eID and Trust Services as mechanisms that ensure secure and protected data exchange in public services (Recommendation 47).



Source: [European Interoperability Framework Monitoring Mechanism 2022](#)

The results of Luxembourg concerning Cross-border Interoperability in Scoreboard 4 show a very good performance of the country in 16 indicators. However, Luxembourg has still margin for improvement regarding Principle 7 and Security and Privacy. For instance, efforts could focus on ensuring that all European public services are accessible to all citizens, including persons with disabilities, the elderly and other disadvantaged groups (i.e. Recommendation 14) and on the use of trust services according to the Regulation on eID and Trust Services as mechanisms that ensure secure and protected data exchange in public services (i.e. Recommendation 47).

Additional information on Luxembourg's results on the EIF Monitoring Mechanism is available online through [interactive dashboards](#).

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

Please find here some relevant indicators and resources on this topic:

- [Eurostat Information Society Indicators](#)
- [Digital Economy and Society Index \(DESI\)](#)
- [eGovernment Benchmark](#)



2 Digital Public Administration Political Communications

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2.1 Specific Political Communications on Digital Public Administration

Ministry for Digitalisation Strategic Axes

On 11 January 2020, the Ministry for Digitalisation announced the [four strategic axes](#) to achieve a full transition to a digital government, setting the objectives and priorities for the upcoming years. The Ministry also announced that the objectives and the initiatives defined under each axis can only be achieved by applying a collaborative approach to innovation in general and by facilitating technological innovation. The Ministry's strategic axes are the following:

- 1. Developing eGovernment;
- 2. Advancing the administrative reform;
- 3. Promoting digital inclusion; and
- 4. Integrating new technologies.

eGovernance Strategy 2021–2025

In February 2021, the Government Council adopted the [eGovernance Strategy](#) for 2021–2025, jointly developed by the Ministry for Digitalisation and the Government IT Centre (*Centre des technologies de l'information de l'État*, CTIE). The Governing Council also mandated the Inter-ministerial Committee for Digitalisation to coordinate the implementation of this strategy.

One of the strategic axes of the Ministry for Digitalisation aims to strengthen eGovernment and enable the transition to a digital government, a concept which designates the use of technologies within the framework of State modernisation strategies with the objective of creating real added value for citizens, businesses and public administrations. The eGovernance Strategy forms part of this approach by setting the essential elements for a successful digital transition of the State to ensure quality digital services and to guarantee a gradual transition to a digital government, as recommended by international organisations. The 2021–2025 strategy highlights the principles to be respected when digitising public services to offer citizens and businesses public services that meet their needs. The goal is promoting transversal digital accessibility, developing user-centred services, offering attractive online public services and investing in citizens' trust in online State services.

Furthermore, the strategy analyses the essential conditions for the central public administration so as to enable it to respond effectively to the needs of society. The overarching objectives in the digital context are to facilitate the transition to an efficient paperless administration and to have an information technology (IT) environment conducive to new ways of working.

Finally, the strategy underlines the importance of being able to rely on a central IT partner who is competent, agile and reliable. To this aim, the CTIE aims to strengthen its digitalisation services, develop cutting-edge infrastructures and further guarantee very high levels of security and reliability.

new Einfach Lëtzebuerg

The government has been committed to administrative reform and simplification for several years now and much progress has already been made, notably under the programme [Einfach Lëtzebuerg](#). However, the simplification of administrative formalities and procedures is continually evolving.

Drawing on technological advances in particular, the programme aims to provide a simple and predictable framework for citizens and companies in their relations with the State. Any new project, legislation, procedure or adaptation of existing ones, when deemed necessary, needs to be respectively considered or reconsidered in light of the 'digital' component.

The digitalisation and simplification of State administrations must proceed in parallel to reach the desired outcome, and all Ministries and administrations have concrete digitalisation projects on their agenda. Therefore, efforts need to be consolidated and amalgamated to provide Luxembourg with an exemplary administration that will contribute to its economic attractiveness.

In this framework, in February 2022 the Ministry for Digitalisation launched the [Zesumme Vereinfachen](#) platform.

Digital Luxembourg

IT has become both a vital sector of the economy and an important influence factor in all socio-economic sectors, which makes it an essential component of the government's policy of rationalisation, efficiency, modernisation and 'doing more with less'.

In this context, in October 2014 the government decided to reinforce and consolidate Luxembourg's position as an IT and high-tech centre of excellence, and as an open and connected society, starting with a coherent and generalised strategic framework. [Digital Luxembourg](#) enables and supports new and existing projects that address the country's needs and fuel positive transformation. It establishes solid financial foundations for innovation, provides for the teaching and training of new competences, and helps to create new markets (big data, smart grids, health IT, financial technology, virtual currencies, etc.) for Luxembourg's rapidly growing IT sector. Digital Luxembourg strives to make them successful by facilitating public partnerships, securing funding and boosting visibility.

To maximise its impact, the strategy is applied horizontally throughout the different sectors and is a key component of every political decision. It is implemented by various Ministries for the domains that fall under their responsibility and is coordinated by the Department of Media, Connectivity and Digital Policy (SMC). The strategy is aligned with the United Nations Sustainable Development Goals (SDGs) framework, which is part of Luxembourg general political goals.

Berlin Declaration on Digital Society and Value-Based Digital Government

On 8 December 2020, the Minister Delegate for Digitalisation signed the [Berlin Declaration on Digital Society and Value-Based Digital Government](#). Following on from the Tallinn Declaration of 2017 and the European [eGovernment Action Plan 2016—2020](#), the Declaration sets out common principles and objectives for a digital public administration based on the democratic values and fundamental rights established in particular in the Charter of Fundamental Rights of the European Union.

2.2 Interoperability

Luxembourg National Interoperability Framework

The [Luxembourg National Interoperability Framework \(NIF\)](#) was adopted on 1 March 2019. It defines principles, objectives, governance and recommendations in the field of interoperability, and gives specific guidance on how to set up interoperable digital public services. More specifically, this framework, based on the [European Interoperability Framework \(EIF\)](#), offers public administrations concrete recommendations on how to improve interoperability in the field of digital government and information and communication technology (ICT) in a sustainable and systematic way.

In 2019, the Ministry for Digitalisation set up a working group which in 2020 established an effective governance model for the NIF. In the framework of the NIF governance defined in 2020, the Sectorial Committee for Interoperability (CSI) of the central government was established, which had its first meeting in April 2021. The action plan of the CSI of the central government, as well as the catalogues of interoperability (IOP) of the National Committee for Interoperability (CNI) were updated in July 2022.

As part of the NIF, in April 2022 the Ministry for Digitalisation launched the 'NIF4Gov' call for projects. NIF4Gov aims to support interoperability at the national level by setting up a framework to advice on projects selected by a jury and financed by the Ministry.

2.3 Key Enablers

2.3.1 Open Data, Reusability and Access to Public Information

new Open Data Strategy

Luxembourg's government adopted in 2022 an [Open Data Strategy](#), together with a five-year [roadmap](#). In a circular letter, the Prime Minister gave [official instructions](#) about concrete actions to be undertaken by governments' organisations in this context.

2.3.2 eID and Trust Services

new GouvID

In February 2022, the competent Ministry launched the new GouvID mobile app, developed by the CTIE. This app offers citizens the possibility to use their electronic identity (eID) card in conjunction with their smartphone to authenticate with different digital State services, such as MyGuichet.lu, and thus dispense with a specific eID reader. The GouvID app also allows to sign online administrative procedures that require an electronic signature. Detailed information and video tutorials are available at www.gouvid.lu.

new eWallet

A national eWallet is currently being developed allowing users to manage and present digital certificates of official documents (i.e. the principle of Self-Sovereign Identity) on their smartphones. This is a first step to be able, in the future, to exchange verifiable credentials established on the basis of digital certificates. A first version will support the identity card and the driving license. The major features are:

- Certified and secure user authentication;
- Storage of official documents in the form of digital certificates;
- Control and verification of the aforementioned documents using a smartphone and the GouvCheck app;
- Future integration into the Luxembourgish Police verification applications; and
- Operation in off-line mode in a face-to-face mode.

new Draft Law on the Electronic Signature of Administrative Documents and Secure Platform for Public Documents

To facilitate and accelerate the transmission of administrative documents between the government and the various State administrations and services, as well as between the State services and citizens, it is proposed to introduce the possibility of affixing the electronic signature and the electronic seal in administrative matters. The amended Law of 14 August 2000 on Electronic Commerce already provides for the option of using an electronic signature for private documents. Similarly, the Draft Law on the Electronic Signature of Administrative Documents provides for the possibility of affixing electronic signatures or seals to administrative documents issued by administrative authorities and to transmit them electronically.

Through its various provisions, the draft law, together with the Secure Platform for Public Documents, will contribute to the digitalisation of the public administration, by facilitating the conclusion of administrative acts in digital format. Many internal procedures and procedures based on a signed act can thus be digitised. The draft law and the platform are expected to be adopted before the autumn of 2023.

new Electronic Signature Verification and Validation Platform

With the aforementioned Draft Law on the Electronic Signature of Administrative Documents and Secure Platform for Public Documents, providing for the possibility to use qualified electronic signature in administrative matters, the needs in terms of verification of electronic signatures will increase. The Electronic Signature Verification and Validation Platform will address those needs.

This new platform aims to allow State agents to verify and validate electronic signatures of all European countries in accordance with the requirements of the Regulation on electronic identification and trust services for electronic transactions in the internal market (eIDAS Regulation). The user uploads the document to the platform, which validates the electronic signatures, stamps and timestamps present on the document on the basis of the European trusted lists. The platform then presents the results of the validation in a simplified way. It further allows to download a detailed report and print the validation summary in a print-friendly format. After the validation report is issued, the document is destroyed automatically on the platform.

2.3.3 Security Aspects

Fourth National Cybersecurity Strategy

On 24 February 2021, the government approved the [fourth National Cybersecurity Strategy](#), building on the foundations of the previous strategies and illustrating the government's engagement to meet the security challenges related to the digital transformation. The strategy focuses on three key objectives, each containing a series of strategic priorities:

- Objective I: building confidence in the digital world and protecting human rights online;
- Objective II: strengthening the security and resilience of digital infrastructures in Luxembourg; and
- Objective III: developing a reliable, sustainable and secure digital economy.

2.3.4 Interconnection of Base Registries

new REG4GOV Project

In 2022, the jury of the NIF4Gov call for projects selected a project supported by the Ministry of Mobility and Public Works called 'REG4GOV'. REG4GOV aims to define, through the design and deployment of the methodological fragments and technologies needed, a systematic and standardised approach to develop and set up basic registries in accordance with regulatory requirements. This project will thus make it possible, in particular, to make significant progress in terms of the Once-Only principle. Moreover, it is highly complementary to the work in progress on the Service Data Intermediation (SDI) and to the eGovernance Strategy 2021–2025, which considers base registries as a key enabler towards a fully digital administration. The CTIE strongly relies on this strategy when implementing new back offices for administrations by interconnecting them with base registries (see above with regard to the reuse of data in the CTIE's infrastructure).

2.3.5 eProcurement

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

2.4 Domain-specific political communications

Digital4Education Strategy

On 20 May 2015, the Minister for Education, Children and Youth presented the digital strategy for education called '[Digital4Education](#)'. This strategy had two key objectives:

- Preparing young people for work in a complex and constantly changing environment (under the 'digital for education' umbrella); and
- Promoting new learning strategies, software and innovating educational projects (under the 'digital for education' umbrella).

Other projects under the Digital (4) Education Strategy include: (i) training teaching staff and offering access to digital teaching resources as part of eduSphere; (ii) introducing a maths-teaching software (for cycle 4) to be used at home and at school as part of [MathemaTIC](#); and (iii) providing comprehensive computer literacy training and enabling students to better manage their lives through digital tools in the framework of [Digital Classroom Lëtzebuerg](#). Further projects include FutureHub labels for schools committed to new technologies and an online teaching/learning platform.

In January 2020, the Minister for Education, Children and Youth also introduced coding in all mathematics classes throughout cycle 4 and 5 of the basic educational programme. The

development of digital skills, particularly coding and computational thinking, is now seen as a fundamental precondition for schools wishing to effectively prepare young people for the careers of tomorrow, which will continuously require more and more digital skills. Thus, digital, computational and coding skills will systematically be taught throughout the primary and secondary education programmes in public schools. As part of the Code Week 2020, the Ministry for Education organised coding workshops with high schools and primary schools. In that context, a 'matchmaker' platform was setup with the contribution of Digital Luxembourg, allowing teachers who want to organise coding workshops and need experienced assistance to register for an appointment with IT volunteers.

Einfach Digital

In February 2020, the government presented [Einfach Digital](#), a new approach to digitalisation in the classroom focused on critical thinking, creativity, communication, collaboration and coding. Einfach Digital represents the next generation in the Ministry for Education's digitalisation approach, thus replacing the Digital4Education strategy. The objective is to allow all Luxembourg's children and young adults to learn how computers work. The measures taken are part of the Media Compass (*Medienkompass*), a reference framework issued by the Ministry in March 2020 which provides guidelines to schoolteachers. Within the framework of the Einfach Digital initiative, a campaign on media use addressed to parents has also been launched.

new National Action Plan for Digital Inclusion

One of the main strategic axes of the Ministry for Digitalisation is the promotion of digital inclusion, a process which aims to make digital technology accessible to each individual, to give every individual the same opportunities to participate in the digital society and to counteract the digital divide. In this field, the [National Policy on eParticipation and/or Inclusion](#) as well as a [Web Strategy](#) focusing on web accessibility have existed for more than 15 years now.

The National Action Plan for Digital Inclusion was drawn up by the Ministry for Digitalisation, in close consultation with an interdepartmental working group, and with the help of bilateral exchanges with associations and various non-State actors close to populations which may be isolated from the digital world. Published in September 2021, it includes 40 concrete initiatives spread over three strategic axes to improve digital inclusion in Luxembourg and avoid a widening of the digital divide. With the help of the interdepartmental working group, the Ministry for Digitalisation will continue monitoring its implementation and annually assessing the progress of the various initiatives.

As part of the implementation of the National Action Plan for Digital Inclusion, the Ministry for Digitalisation launched a call for projects to finance pilot projects promoting digital inclusion in Luxembourg for the year 2022–2023. This call for projects is addressed to associations, private organisations, public institutions, municipalities, inter-municipal unions, professional chambers, training centres and public research institutes that are committed to digital inclusion. The projects submitted must fall within the scope of one or more of the following three strategic levers:

- Increasing digital motivation and creating digital trust;
- Facilitating access to digital; and
- Developing digital skills.

These levers bring together a set of concrete initiatives of the Ministry for Digitalisation and the actors involved in the development of the National Action Plan for Digital Inclusion. In particular, the third strategic lever focuses on the development of digital skills and digital citizenship to enable individuals to navigate the digital world in a more autonomous and safer way, regardless of their age, level of education or gender.

The call for projects will be published on an annual basis. The 2022 edition saw 28 dossiers submitted to the Ministry, of which six were awarded a financing agreement. Five projects aimed to develop basic digital skills amongst populations that are at risk of digital exclusion and one even specifically dealt with gender imbalance. The projects' results will be evaluated following the submission of the final report. The six winners of the '2022 Digital Inclusion Award' were the following:

- Autisme Luxembourg ASBL, for the creation of a social platform for people with autism;
- Club Haus op der Heed, for the provision of tablets with mobile data as well as individual support to familiarise the elderly in municipalities in the North of the country with the new media;

- GoldenMe ASBL, for the development and strengthening of a network of intergenerational 'smartphone cafés' in different municipalities of the Grand Duchy;
- Stéftung Hëllef Doheem, for the promotion of digital literacy among vulnerable elderly people in the ten psycho-geriatric centres (CPG) of their network;
- The City of Dudelange, for the creation of an 'Internet Stuff' to promote and present the digital world to the elderly through exchanges and training in a safe, familiar and friendly environment; and
- WIDE&CO, for the provision of 'meeting points' for women with individual advice regarding IT and digital issues.

eHealth Strategy

The government of Luxembourg already approved in 2006 a first National eHealth Strategy, which has been gradually updated since then. In this context, with the aim of drawing up the National Health Plan until 2023, the Ministers of Health and Social Security brought together in 2020 the key players in the Luxembourg health system within the framework of the '*Gesondheetsdësch*'. The involved actors formed six thematic groups, including one dedicated to the use of new technologies in the field of health, to jointly identify the challenges, analyse the different possible scenarios and propose priority measures. Projects emerging from this working group include the following: (i) the establishment of an inter-ministerial committee responsible for coordinating digitisation in the field of eHealth in line with the National eHealth Strategy; (ii) the establishment of a permanent committee responsible for promoting and coordinating innovation in the field of health; (iii) the proposal of an updated National eHealth Strategy to be integrated into the National Health Plan; and (iv) the implementation of a roadmap adapted to digital health.

More in general, the government continues promoting the National eHealth Strategy to facilitate the exchange and secure electronic sharing of health data between health professionals and patients, and also to enable better monitoring and better coordination of the patients' healthcare. In pursuit of this objective, the [National Agency for Shared Health Information \(eSanté\)](#) has developed and implemented the National eHealth Platform, which includes basic urban development components to provide various services to patients, healthcare providers and suppliers of digital health solutions. New eHealth services launched in 2020 through the National eHealth Platform include a teleconsultation and telemonitoring system, as well as an electronic vaccination card which is currently in a pilot phase. Furthermore, since the end of 2019, eSanté has gradually deployed the Shared Medical File (*dossier de soins partagé*, DSP) to all persons affiliated with Luxembourg social security. The DSP is a free, personal and secure electronic health record that centralises essential patient health data in one place. In October 2020, Paulette Lenert, Minister of Health and Minister Delegate for Social Security, and Romain Schneider, Minister of Social Security, [presented](#) the DSP and the associated 'My DSP' communication campaign.

Finally, in June 2019, Luxembourg also launched the [EU's first cross-border eHealth service](#). This new feature of the eSanté portal ensures a smooth and fast electronic exchange of patient summaries between various countries of the EU. More concretely, it ensures that any European patient visiting a doctor during their stay in Luxembourg are able to benefit from this service and request that their patient summary be shared with their doctor in another European country.

2.5 Innovative technologies

2.5.1 Artificial Intelligence (AI)

Strategic Vision for Artificial Intelligence

On 24 May 2019, Xavier Bettel, Prime Minister and Minister for Communications and Media presented the [Strategic Vision for Artificial Intelligence \(AI\)](#). It includes political guidelines applying both to AI and the ongoing digitalisation of key economic sectors with the objective of supporting the emergence of a sustainable and reliable national economy. In this sense, the development of a strategic vision for AI represents a national priority for Luxembourg. In addition to implementing detailed actions and engaging citizens on their attitude towards AI, the document identifies three goals for the country:

- Becoming one of the most digitally advanced societies in the world, in particular within the European Union (EU);
- Establishing Luxembourg as a sustainable, data-driven economy; and
- Supporting the development of AI with a human-centred approach.

At State level, Luxembourg's Strategic Vision for AI led to the creation of the [AI4Gov Inter-ministerial Committee](#), made up of representatives of the Ministry for Digitalisation, the SMC, and the Information and Press Service (SIP). To promote the use of AI within the public administration, the AI4Gov Inter-ministerial Committee launched two calls for experimentation projects in AI and data science, in October 2019 and December 2020 respectively, addressed to public actors. In addition to providing technical assistance for projects, the Committee also offers legal and ethical support through the creation, at the beginning of 2020, of an inter-ministerial working group called 'AI Legal & Ethics Working Group'. This group is made up of the Ministry for Digitalisation, the SMC, the SIP and the High Commission for National Protection. Through the support of AI4Gov projects and dialogue with project leaders, this working group carries out a preliminary assessment of the legal and ethical risks associated with the projects, thus laying the groundwork for the approach to AI governance in the sector.

On 20 November 2020, the government undertook an additional step in the pursuing of the national Strategic Vision for AI by launching a public consultation on the perception of AI among the population and societal actors. The results of the consultation were presented by Prime Minister Xavier Bettel in spring 2021.

National Call for Projects

The AI4Gov calls for projects align with the government's desire to continue to promote experimentation and adoption of new technologies such as AI and data science within public administration. A first version of the call for projects was launched at an inter-ministerial coordination meeting as part of the Strategic Vision for AI on 14 October 2019.

The 2020 and 2021 calls resulted in the selection of the following experimentation projects (of which three are being implemented at the moment): (i) Extopia: extraction of topographic objects – Cadastre and Topography Administration; (ii) Facial recognition for the Media Library – SIP; (iii) AI for eLuxembourgensia – National Library of Luxembourg; (iv) Transkribus: transcriptions of handwritten documents – National Archives of Luxembourg; and (v) Statistics with mobile phone data – STATEC.

The 2022 call resulted in the selection of the following projects: (i) ADEM Interact: conversational AI platform which can assist agents who receive messages from job seekers formulating personalised responses; (ii) ADEM Profiling: support model for agents to assess which job seekers need what measures as well as what levels of support are needed to access employment, based on the analysis of existing data at the Employment Development Agency (*Agence pour le développement de l'emploi*, ADEM); (iii) CNS Phonebot: Phonebot powered by AI applied to the use case of the Chatbot/Phonebot service supporting the agents of the National Health Fund (*Caisse Nationale de Santé*, CNS) in their work. The Luxembourgish language is not yet compatible with technologies to perform Text-to-Speech (TTS) or Speech-to-Text (STT) for Phonebots. As a result, the project aims to change this situation and offer optimal service to all policyholders.

Building on the success of previous calls for projects, the AI4Gov initiative is launching the fourth call for administrations wishing to experiment with AI and data science.

2.5.2 Distributed Ledger Technologies

Blockchain White Paper and Public Sector Blockchain

In June 2018, the Ministry of Economy, with the support of the Luxembourg Institute of Standardisation, Accreditation, Safety and Quality of Products and Services (*Institut luxembourgeois de la normalisation, de l'accréditation, de la sécurité et qualité des produits et services*, ILNAS), published a [White Paper on Technical Standardisation](#) related to blockchain technology. The objective of the white paper was to describe the main developments related to blockchain and distributed ledger technologies. A comprehensive analysis is presented by considering:

- Blockchain concepts and technology;
- The economic and business impact; and
- Technical standardisation.

In 2019, the Ministry for Digitalisation, together with the Inter-communal Union for Information Management (*Syndicat Intercommunal de Gestion Informatique, SIGI*) and the CTIE, announced the [creation of the first public sector blockchain \(PSBC\)](#). In 2020, the PSBC was set up at technical level by establishing the network with nodes at the CTIE, the SIGI and the Teleinformation Network of National Education and Research (*Réseau Téléinformatique de l'Education Nationale et de la Recherche, Restena*), as well as at governance level through the signing of a governance agreement between the Ministry for Digitalisation and the SIGI and through the establishment of a Governance Committee between the above-mentioned partners and the technical working groups.

In 2021, the online application for higher education State financial aid was end-to-end digitalised based on the PSBC. Students who apply for financial aid for higher education will receive the approval of a student loan by the Ministry of Higher Education and Research in the form of a certificate with a QR code. They can then use it to apply for their loan from their bank electronically in a fully secure and traceable way. The QR code allows the bank officer to verify that the supporting document is authentic and that the loan instalment is being requested from only one bank. Authenticity is verified through the PSBC, which is used to notarise the certificates issued. In this context, numerous associations and initiatives, partly supported also by the government, promote the research, teaching and development of blockchain technology in Luxembourg. In particular, in December 2019 five of the main players, INFRACHAIN, LëtZBlock, the Luxembourg House of Financial Technology (LHoFT), the Luxembourg Institute of Science and Technology (LIST) and the Interdisciplinary Centre for Security, Reliability and Trust of the University of Luxembourg (SnT), launched a collaboration to strengthen Luxembourg as a European blockchain hub.

European Blockchain Services Infrastructure and EBSILUX

The Ministry for Digitalisation is also involved at European level in the European Blockchain Partnership (EBP), a collaboration between 29 countries (EU Member States, Norway and Liechtenstein) and the European Commission which is setting up a European blockchain (European Blockchain Services Infrastructure, EBSI). This infrastructure distributed at European level will make it possible to launch interoperable and cross-border services, such as data notarisation and support for a digital identity. Since 2020, the Ministry has been operating an EBSI node in collaboration with INFRACHAIN, joining the 28 nodes already operational in various European countries.

In 2020, the Ministry for Digitalisation, INFRACHAIN, the LIST and the SnT partnered to develop the [EBSILUX project](#). Co-funded by the EU, this project integrates Luxembourg into the EBSI. More information on the EBSILUX project can be found [here](#).

2.5.3 Big Data

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

2.5.4 Cloud Computing

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

2.5.5 Internet of Things (IoT)

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

2.5.6 High-performance Computing

new EuroHPC

In an effort to strengthen the digital competitiveness of Luxembourg and Europe, the government signed a European High-Performance Computing (HPC) declaration, also referred to as [EuroHPC](#). EuroHPC provides for collaboration in setting up an EU-wide HPC network initiated by Luxembourg. In signing, Luxembourg, Italy, Spain, France, Germany, Portugal and the Netherlands reinforced the Europe 2020 Strategy by helping secure the computing capabilities needed for the EU's competitiveness as a digital economy. In this framework, Luxembourg is also part of the EuroHPC network of HPC Competence Centres.

On 25 June 2018, the European Commission decided to establish the EuroHPC joint headquarters in Luxembourg, with the aim to equip the EU with a pre-exascale and petascale infrastructure (1 015 calculation operations per second) by 2020, and develop the technologies and applications needed to reach the exascale level (1 018 calculation operations per second) by 2023.

In 2019, Luxembourg was also selected to host a supercomputer that will serve public and private users, and will be part of the EuroHPC network of supercomputers. Luxembourg's contribution to the EuroHPC initiative, namely the high-performance computer named MeluXina, was inaugurated in June 2021 and started being operational in November 2021. It was immediately ranked 1st in Europe in the Green500 list and 4th worldwide. This high-performance computer is currently taking shape in the data centre in Bissen. In addition, the University of Luxembourg is also home to a high-performance computer and a EUR 10 million budget has been allocated for a new, faster one.

Finally, Luxembourg is leading the consortium that was selected in September 2021 by international experts as winner of the EuroHPC Joint Undertaking (JU) call for projects to create and implement the first pan-European Master of Science (MSc) programme in HPC. The experts praised the high quality of the proposal and expressed their trust in Luxembourg to be able to mobilise all the stakeholders and together deliver on this ambitious educational project. Eight graduating universities (FAU in Nürnberg, KTH in Stockholm, Polimi in Milan, UniSofia in Sofia, Sorbonne in Paris, Uni.lu in Luxembourg, UPC in Barcelona and USI in Lugano), and 60 public and private sector participants constitute the consortium led by Luxembourg. Funded by the EuroHPC JU, the MSc programme will link academic excellence to the current and future challenges of the European businesses, industry and public sector in the multidisciplinary field of HPC. The modular curriculum and partnership with the European HPC industry will provide students with distinct qualifications and outstanding career prospects in the rapidly expanding field of HPC. In September 2022, the first students of the newly created [European Master](#) in HPC started their 2-year programme.

new National Supercomputer Centre LuxProvide

[LuxProvide](#) is the national HPC centre in charge of the planning, installation and operation of MeluXina. The mission of LuxProvide, headquartered in Bissen, is to facilitate access to the use of the computational capabilities of the national supercomputer MeluXina by setting up a competence centre in collaboration with Luxinnovation, the national innovation agency, and the University of Luxembourg, providing dedicated support to all kind of users in their HPC projects.

MeluXina will support Luxembourg's Data-driven Innovation Strategy, contributing to building a digital, sustainable and reliable economy by making HPC accessible to businesses of all sizes ([IPCEI-CIS](#)). This specific IPCEI will create a cloud-edge continuum, and grant the right for applications and data to freely 'roam' from one cloud provider to another (see the data portability right granted by the General Data Protection Regulation or GDPR), with a special focus on edge cloud computing. Luxembourg will contribute to the IPCEI with a special focus on open source cybersecurity tools, like Security Operation Centres (SOCs), and the Computer Security Incident Response Team (CSIRT) tools for cloud and edge-cloud, generating huge positive externalities in terms of synergies. Luxembourg will also provide privacy and trade secrets preserving technologies for cloud that are also capable of running on edge nodes (for instance Industry 4.0 installations). Luxembourg has put a special focus on cross-company and cross-border collaboration and the capitalisation of synergies. To achieve this, all documentation, application programming interfaces (APIs), products and services will be published in open source via a resource centre becoming the first Luxembourg Open-Source Promotion Office (OSPO). An open cybersecurity data space will be created where the connected data lakes will be running on edge cloud to guarantee low latencies to large consumers and contributors. The data space as well as the resource centre providing access to documentation and open source software are implemented as edge nodes connected to the high-performance computer MeluXina and the Data Exchange Platform.

Luxembourg is financing the IPCEI-CIS initiative with a national State aid funding amounting to maximum EUR 25 million for the next three years, of which EUR 2 million are allocated to the development of the edge node with the open cybersecurity data lake in close proximity of MeluXina to enable secure machine learning. The first projects were received in the fourth quarter of 2022 and in the first half of 2023 the Luxembourg State Aid Commission will decide upon the conformity of the projects with State aid rules.

2.5.7 High-speed Broadband Connectivity

Ultra-high-Speed Broadband Strategy 2021–2025

In October 2021, Luxembourg's government put forward the [Ultra-high Speed Broadband Strategy 2021–2025](#), following the government's broader objective of fostering a digital society that benefits all residents.

Building on the sound basis of a high-quality and scalable communication infrastructure developed over the past decade, the new strategy defines two main areas of intervention: (i) reduction of the digital divide in the Luxembourgish society; and (ii) contribution to dynamism and competitiveness within the telecommunication sector. The strategy operationalises these two areas of intervention by tackling existing gaps within the telecommunication network. In order to fill these gaps, the strategy sets five main objectives:

- Make connectivity accessible to all;
- Accelerate the transition of households and businesses to more efficient and sustainable technologies;
- Accelerate the deployment of future-proof infrastructure, while respecting technological neutrality;
- Improve transparency and strengthen consumer protection; and
- Develop Luxembourg as the launchpad of choice for ICT service providers of today and tomorrow.

The first objective was implemented in 2022 by introducing a voucher scheme, supporting households in a challenging financial situation by reducing the price for a fixed internet subscription by 10 EUR per month. For 2023, the priority will be implementing objectives 2 and 3, i.e. promoting the take-up of future-proof ultra-high speed broadband connectivity solutions and eliminating white spots, targeting areas with no very high capacity network (VHCN) connectivity.

In order to support the national Ultra-high Speed Broadband and 5G strategies, MyConnectivity was created in early December 2021 as an economic interest group (GIE). Its creation is based on the strategic interest to accelerate and improve the connectivity of private households and businesses in the Grand Duchy of Luxembourg. This will help bringing digital public administration services closer to the citizens. This GIE was created jointly by the State, via the Media, Connectivity and Digital Policy Service (*Service des médias, de la connectivité et de la politique numérique*, SMC), and by the LU-CIX Management GIE, due to its close contact to players in the field of telecommunications and connectivity.

5G Strategy

In September 2018, the SMC of the Ministry of State launched the [5G Strategy for Luxembourg](#). It pursues the following objectives:

- *Assigning the necessary spectrum*: freeing the necessary spectrum bands and assigning them in a suitable way to the interested mobile network operators;
- *Supporting the technical roll-out*: supporting the technical roll-out (e.g. access to public infrastructure) based on the existing regulatory framework;
- *Answering citizens' concerns*: ensuring transparent communication of the roll-out process and the scientific data about electromagnetic fields (EMFs);
- *Pioneering a citizen-centric 5G network*: organising a series of conferences (see below) and call for projects, as well as challenging all stakeholders to utilise the potential of the 5G network by triggering pilot projects that bring added value to the society in the fields of eHealth, smart mobility and digital communities; and
- *Developing an innovative mindset*.

As a complement to the elaboration and publication of the national 5G Strategy, the SMC organised conferences as well as experience sharing sessions with regards to the 5G technology. The first conference took place in December 2018, a second conference was organized in December 2019 and the third conference took place in October 2021. More information can be found at www.5g.lu.

As per the 2019 Broadband Coverage in Europe report, approximately 95% of households in Luxembourg have access to a connection with a speed beyond 100Mbps, via either fiber-to-the-home (FTTH) or coaxial cable (DOCSIS 3.1). Even in rural areas, almost every household has access to such a connection (approximately 92%).

Cross-border Corridors

One element of the EU 5G Strategy is the deployment of cross-border corridors along the major transportation routes. Luxembourgish stakeholders have been very involved in this regard, with both telecom operator and research centres but also other organisations implied in several of the European projects.

For instance, the **5G CroCo** (Cross-Border Control) was a European research project that provided a 5G coverage of the Luxembourg portion of the motorway section linking Metz (France), Merzig (Germany) and the Grand Duchy. The project consortium plans to further exploit it and enlarge its scope.

Furthermore, two other corridors are currently being worked on:

- The 5G DeLux project focuses on enabling seamless mobility at European borders as well as connected and automated mobility (CAM). Partners and consortium members are Telekom Deutschland, Post Luxembourg and the BMW Group. This project aims to develop and introduce a seamless handover solution for 4G and 5G, and to define a European standardised blueprint. The key motivation is to provide seamless cross-border mobility for customers of all participating mobile network operators;
- The 5G MELUSINA project aims to deliver an inception study to prepare the implementation of 5G infrastructure along a rail cross-border section of the North Sea-Mediterranean TEN-T Corridor between Metz (France) and Luxembourg City (Luxembourg), to the benefit of train passengers' connectivity and digitalisation of rail operations. The study will be carried out by a consortium involving both rail and mobile network operators from France and Luxembourg.

National Calls for Projects (5G)

In 2019, the SMC launched a first national call for projects. Following the evaluation by an expert committee and the review by an inter-ministerial commission, eight projects were launched in 2021, covering a range of thematic areas, from EMF measuring to eHealth and smart metering, to 5G fixed wireless access applications. All projects focus on how citizens can use and benefit from the technology. The SMC also launched a second national call for projects in the framework of the national 5G Strategy and the conference 'Connecting tomorrow - 5G, broadband and beyond' which took place in Luxembourg in October 2021. Three science communication projects were retained. All projects will be finished by the end of 2023. The main goal of both calls for projects was to stimulate the take-up of 5G technology and the creation of a national 5G ecosystem.

A description of all the eleven 5G pilot projects that were selected in the first two 5G calls for projects issued by the SMC in 2019 and 2021 can be found at www.5g.lu. Among these, one relevant pilot project relating the deployment of VHCN in Luxembourg is based in a rural community. With this project, the local authority of Waldbillig tested the reliability and the technical characteristics of a fixed wireless access (FWA). About 80 households could benefit from such an advanced wireless connection, while the streets were mainly still only relying on old copper infrastructure.

2.5.8 GovTech

new GovTech Lab

The Ministry for Digitalisation and its technological arm, the CTIE, initiated the GovTech Lab in 2020. It is a joint initiative that aims to encourage and support a culture of innovation and change within the State in order to rethink existing procedures and operational flows, and integrate principles such as digital by default, design thinking or service by design when conceiving new solutions.

To achieve its mission, the GovTech Lab launches calls for solutions. In 2022, it launched two new innovation partnerships. In March, a videoconferencing solution that can be integrated into government sites was sought via the 'Virtual Meeting Room' call for solutions. This solution will allow citizens to exchange with a government official virtually without having to go to the respective administration. In September, the 'Simplify Legi' call for solutions was launched with the aim of collaborating with an external partner to develop a technological solution for identifying administrative procedures and their complexity in legislative texts using AI.

In 2022, the GovTech Lab also introduced a second channel for launching calls for solutions - SpeedUP. This approach is designed to look for innovative or already existing technological solutions and has a shorter duration than the innovation partnership. Three SpeedUPs were launched in 2022: (i) a legal study for the implementation of a digital mandate; (ii) an impact and feasibility analysis on open web content for the public sector; (iii) and a dynamic data visualisation solution.

Furthermore, the GovTech Lab works on creating a GovTech community through the organisation of specialised events, thereby complementing the existing ecosystem of players who develop and promote innovative solutions. Following the opening of its physical space, specifically designed to foster co-creation, collaboration and innovation, the GovTech Lab has launched a series of activities. It invites government officials and private sector actors to present interesting use cases, projects, initiatives and technologies with the aim of fostering exchange between different Ministries and administrations, as well as between the public and private sectors. It also organises hackathons, ideathons, workshops as well as a series of recurring events. Different formats have been developed for different types of audiences: GovTech Afterwork, Technobreakfast, eGov Exchange and GovTech Experiment. In 2022, the GovTech Lab hosted and organised a total of 37 activities with an average of 30 participants per activity.

new Infrachain Challenge 2022

In November 2022, the GovTech Lab published a [communication](#) about the Infrachain challenge to develop a team project. Their work will be reviewed by the Ministry for Digitalisation, which will possibly contact them for future collaboration to turn their concept into a public sector blockchain application.



3 Digital Public Administration Legislation

3 Digital Public Administration Legislation

3.1 Specific Legislation on Digital Public Administration

No legislation has been adopted in this field to date.

3.2 Interoperability

No legislation has been adopted in this field to date.

3.3 Key Enablers

3.3.1 Open Data, Reusability and Access to Public Information

Accessibility of the Websites and Mobile Applications of Public Sector Bodies

On 7 May 2019, the Parliament passed the [Law on the Accessibility of the Websites and Mobile Applications of Public Sector Bodies](#). This law transposed into Luxembourgish law Directive (EU) 2102/2016 of 26 October 2016 on the accessibility of the websites and mobile applications of public sector bodies. It supports the objectives of the Digital Luxembourg government strategy to promote access to new technologies for every citizen.

Though the text focuses on accessibility for people with disabilities, it ultimately benefits all citizens. Indeed, everyone should benefit from improved access to public sector services via websites and mobile applications, and from services and information that facilitate their daily lives and the exercise of their rights at the level of the public dimension and at Union level, including the right to move and reside freely within the territory of the Union and the right to freedom of establishment and freedom to provide services.

In this context, the SIP has the responsibility to verify every year a certain number of websites and applications provided by the public sector organisations and to assume a role in the sensibilisation efforts. All documents concerning this activity are available publicly [here](#) and [here](#).

Reuse of Public Sector Information

On 11 November 2021, the Parliament adopted the [law](#) transposing Directive 2019/1024 on open data and the re-use of public sector information. Two key elements of the new law are (i) a significant extension of the scope, including henceforth public undertakings as well as research data; and (ii) the introduction of high-value datasets.

Electronic Archiving

The [Law on Electronic Archiving](#) was adopted on 25 July 2015 (Law of 25 July 2015 relating to Electronic Archiving and amending: 1. Article 1334 of the Civil Code; 2. Article 16 of the Commercial Code; 3. the amended Law of 5 April 1993 on the Financial Sector).

Access to Information

The [Law relating to a Transparent and Open Administration](#) was adopted on 14 September 2018. The purpose of the new law was to define the framework for the implementation of a policy for opening citizens' administrative documents held by government departments, municipalities, local authorities and public institutions, and placed under the supervision of the State or municipalities. Under this law, a newly created commission, the [Commission on Access to Documents](#) (*Commission d'accès aux documents*, CAD) issues opinions about issues regarding the application of this law in order to ensure the right of access to documents at the conditions foreseen by the law.

3.3.2 eID and Trust Services

eIDAS

The [Law of 17 July 2020](#) modified the amended Law of 14 August 2000 on Electronic Commerce (the eCommerce law) bringing it into line with Regulation (EU) No. 910/2014 on electronic identification and trust services for electronic transactions in the internal market (eIDAS Regulation). The new law represents the last piece in Luxembourg's comprehensive and robust legal framework on trust services (including eSignatures and eArchiving).

In 2021, the European Commission published a proposal to revise the eIDAS Regulation. The proposal provides for the federated electronic authentication and signature service to evolve towards interoperable electronic wallets at European level. At the same time, a technical group is developing a technical concept (toolbox) in which the Ministry for Digitalisation and the CTIE participate.

The Ministry for Digitalisation and the CTIE also take part in the consortium 'Pilots for the European Digital Identity Wallet' (POTENTIAL). The latter submitted a project which was selected in December 2022 by the European Commission to pilot new European prototypes around the European Digital Identity Wallet. 148 participants from 19 EU Member States and Ukraine joined forces in the POTENTIAL consortium to pilot the new EU Digital Identity Wallet (EUDIW) prototypes through test use cases (electronic government services, account opening, mobile driving license and remote qualified electronic signature). The project aims to improve citizens' access to reliable and secure electronic identity means and services such as electronic signatures or attestation attributes. This will allow citizens to store their identity in a secure digital wallet valid across borders. The mission is to shape and implement scenarios to test the European Digital Identity Wallet launched by the European Commission.

Draft Law on the Electronic Signature of Administrative Documents

To facilitate and accelerate the transmission of administrative documents between the government and the various State administrations and services, as well as between the State services and citizens, it is proposed to introduce the possibility of affixing the electronic signature and the electronic seal in administrative matters. The amended Law of 14 August 2000 on Electronic Commerce already provides for the option of using an electronic signature for private documents. Similarly, the Draft Law on the Electronic Signature of Administrative Documents provides for the possibility of affixing electronic signatures or seals to administrative documents issued by administrative authorities and to transmit them electronically.

The purpose of affixing a digital identifier to a public document is to guarantee digital inclusion by allowing to continue to make available the various documents and files in paper form to citizens who cannot or do not wish to opt for a digital approach, while guaranteeing the possibility for the administrative authorities and other entities to electronically sign administrative acts. The digital identifier thus allows any citizen to whom the document is addressed, and any administration to which a citizen presents a copy of the act, to access the place where the original document is stored and to become acquainted with it.

eCommerce Law

The [amended eCommerce Law](#) of 14 August 2000, complemented by the [Regulation on Electronic Signatures and Electronic Payments](#) of 1 June 2001, transposed the [EU Directive on Electronic Signatures](#) (1999/93/EC). The act's primary importance resides in the recognition of eSignatures and eContracts. Unlike the directive it was based on, it does not use the term 'advanced' eSignature but rather recognises a 'qualified' level of eSignature. It also differs from the directive and similar legislation in other Member States insofar as it legally recognises electronic wills and electronic deeds, and implements the customer's right to withdraw from an electronic contract within seven days of its creation, free of questions and penalties, with full reimbursement of any money paid to the seller. Differently, the act closely follows the directive in terms of information requirements from seller to customer, the seller's obligation to acknowledge reception of an order, the rules governing the liability and confidentiality requirements for certificate issuers (domestic and foreign), and provisions concerning the auditing and accreditation of certificate issuers. Certification service providers can only issue certificates with the approval of the National Accreditation and Supervision Authority. Approved (qualified) certificates are valid for a maximum duration of three years and must be archived by the certification service provider for at least ten years. Certification providers also have to undergo periodic external security audits.

3.3.3 Privacy and Security aspects

General Data Protection Regulation

In May 2018, the GDPR entered into force in the whole EU and therefore also in Luxembourg. The National Commission for Data Protection (CNPD), which celebrated its 20th anniversary on 1 December 2022, is the relevant independent supervisory authority in Luxembourg. Its mission is to guarantee the respect of the rights of data subjects and the obligations of data controllers/processors in the context of the GDPR and other pieces of legislation related to the protection of individuals with regard to the processing of personal data. The CNPD also acts as data controller to fulfil certain requirements regarding form and content, and represents Luxembourg at the European level in the European Data Protection Board (EDPB). Besides other guidance and awareness-raising activities, the CNPD develops with partners awareness-raising courses on the GDPR and data protection for civil servants in public institutions, and for the private sector with a focus on small- and medium-sized enterprises (SMEs) and start-ups.

In the context of the 17th International Data Protection Day, the CNPD organised on 27 January 2023 a conference entitled 'The metaverse: what reality for privacy rights and freedoms?'. The CNPD also participates in the annual 'Data Privacy Day' conference, an annual event for people interested in data protection and privacy organised by the Restena Foundation and the University of Luxembourg in the framework of the International Data Protection Day.

Act on the Organisation of the National Commission for Data Protection and the General Data Protection Scheme

The Act on the Organisation of the National Commission for Data Protection and the General Data Protection Scheme of 1 August 2018 repealed the previous act on data protection (amended act of 2 August 2002) and implemented the GDPR at national level. The aim of the law is to establish the CNPD as the national supervisory authority for the GDPR, conferring on it the corresponding extended tasks and powers as provided for by the GDPR. Furthermore, it defines the legal framework for the specific provisions of Luxembourgish law and in particular those relating to the supervision of employees.

Amended Act on Data Protection and Electronic Communications

The [amended Act on Data Protection and Electronic Communications](#) of 30 May 2005, concerning the specific provisions for the protection of the individual as to the processing of personal data in the electronic communications sector, and amending Articles 88(2) and 88(4) of the Code of Criminal Procedure, transposes the amended Directive 2002/58/EC and covers the processing of personal data in the sector of electronic communications. The act governs personal data protection in the field of telecommunications and electronic communications, taking into account recent and foreseeable developments in the field of services and technologies involving electronic communications. It aims to protect the privacy of internet users (including protection against unsolicited commercial communications or 'spam') and users of added value services, such as GPS.

3.3.4 Interconnection of Base Registries

The creation of each base registry as well as access to its data are regulated by a specific law. Please refer to Section 5.9 for the complete list of base registries.

Act on the Identification of Natural Persons, the National Registry of Natural Persons, the Identity Card and the Communal Registries of Natural Persons

The National Registry of Natural Persons (Civil Registry or RNPP) is covered by the amended [Act on the Identification of Natural Persons](#) of 19 June 2013. The law encompasses the RNPP mandate to hold identifying information for natural persons, the data contained in the Registry (reference data such as ID number, name, surname, address, date and place of birth, family status, nationality, refugee status, sex, ID number of parents, ID number of kids, date and place of death, and noblesse title), the Commission of the National Registry, the Communal Registries and their maintenance, the entries to be made in the Communal Registries, etc.

Also, Article 4(2) prescribes that authentic data already contained in the RNPP must be reused by public administrations, and that the administrations cannot ask citizens to produce more evidence to prove the exactitude of data already existing in the RNPP.

The national identification number which is given to every natural person registered in the RNPP is also a key building block in the single point of contact, MyGuichet.lu. Every user can hence be identified and given access to his authentic sources. Moreover, it allows to pre-fill online forms in MyGuichet.lu and therefore implements the Once-Only principle (see the eGovernance Strategy 2021-2025).

Company Registry

The main law regarding the Company Registry (Trade and Companies Registry) is the amended [Law on the Trade and Companies Registry and Companies' Accounting](#) of 19 December 2002. The law contains general provisions regarding what companies must be registered, what Ministry is in charge of the Registry and the data to be provided by each company when registering (reference data), followed by information on how to write the annual accounts, the balance sheet, etc.

Land Registry

The Land Registry's main piece of legislation is the amended [Law on the Reorganisation of the Cadastre and Topography Administration](#) of 25 July 2002, which provides details regarding the main functions of the Cadastre and Topography Administration. As a manager of reference land information and maps, the Cadastre and Topography Administration provides the geodata required for town and country planning, and enables the property market to function thanks to effective management of property ownership.

Land Registration

The [Act on Land Registration](#) of 11 November 2003 made a number of amendments to the act of 30 March 1979 regarding the tariffs and fees to be incurred by different actors and the digital directory of individuals. It also includes provisions for access to the directories of notaries and other persons responsible for the creation or execution of the legal documents and introduces the national identification number of the parties in such documents.

Communal Registry

The [Law on the Reorganisation of the Cadastre and Topography Administration](#) of 25 July 2002 entrusts the Cadastre and Topography Administration with the creation, management, dissemination and updating of a national registry of localities and streets, consisting of the name of localities and streets, and the numbering of constructed buildings.

Criminal Records

The amended [Law on the Organisation of the Criminal Record and the Exchange of Information Extracted from the Criminal Record between the Member states of the European Union](#) of 7 April 2009 (updated version of June 2019) provides details on the electronic criminal records that are under the responsibility of the State General Prosecutor.

Database of Road Vehicles and their Owners and Holders

The amended [Grand-Ducal Regulation](#) of 2 September 1993 authorises the creation and operation of a database of road vehicles, and their owners and holders on behalf of the Ministry of Transport, as well as the creation and operation of three databases for derived purposes on behalf of the Ministry of Foreign Affairs, the Registration Duties, Estates and VAT Authority, and the Customs and Excise Agency.

Central Registry of De Minimis Aid

The [law](#) of 20 December 2019 establishes a [Central Registry of De Minimis Aid](#). Any de minimis aid granted in accordance with Commission Regulation (EU) No. 1407/2013 of 18 December 2013 on the application of Articles 107 and 108 of the Treaty on the Functioning of the European Union to de minimis aid shall be entered in a central registry of de minimis aid. The Minister of Economy is responsible for processing the information contained in the Central Registry of De Minimis Aid.

3.3.5 eProcurement

Law on eProcurement

The Luxembourg Parliament adopted a new law on public procurement in 2018, the [amended Act on Public Procurement](#) of 8 April 2018. This law has four main objectives:

- Enabling public markets to become an instrument of political strategy;
- Introducing simplification measures;
- Preventing conflicts of interest, favouritism and corruption; and
- Clarifying certain rules.

eInvoicing Legislation

The [Law on Electronic Invoicing in Public Procurement and Concession Contracts](#) was approved on 26 March 2019. It transposed into Luxembourgish law [Directive 2014/55/EU of the European Parliament and of the Council of 16 April 2014 on electronic invoicing in public procurement](#).

The law establishes for all eInvoices issued under a public contract or a concession contract an obligation for contracting authorities and contracting entities to accept, receive and process them in electronic form, provided they comply with the European standard on electronic invoicing and one of the syntaxes appearing on the list published by the European Commission. This obligation on the part of contracting authorities and contracting entities obviously entails that the undertakings concerned have the right to send compliant eInvoices and no longer have to provide invoices in paper format or in another electronic format.

The [law](#) of 13 December 2021 amending the Law of 16 May 2019 on Electronic Invoicing in Public Procurement and Concession Contracts aims to make electronic invoicing mandatory in B2G transactions in order to contribute to the reduction of the administrative burden on back offices, while digitalising the invoicing process. The government thus intends to create the starting conditions that will facilitate and make more efficient a complete digitalisation and a more extensive automation of the processes of verification, validation and payment of invoices at the level of public sector bodies. This will result in shorter payment terms, and more systematic digitisation and automation of public procurement, the direct consequence of which will be a gain in efficiency and a reduction in the administrative burden for companies. The main objective is to “contribute, via an improvement in business productivity, to increasing the competitiveness of the private sector and therefore the competitiveness of the Luxembourg economy in general”.

In particular, the law provides for the following obligations:

- For economic operators: to issue and transmit only compliant eInvoices, i.e. XML files or files containing XML, in the context of public procurement;
- For public sector bodies: to use the common delivery network for the automated receipt of eInvoices, i.e. Peppol, and, as long as they do not have their own access point to Peppol, the access point of the CTIE;
- For Ministries and State administrations: to use the CTIE’s access point to Peppol.

While the number of eInvoices issued and sent to public sector bodies was negligible before the entry into force of the amended law, more than 120 000 eInvoices were received in 2022 by public sector bodies, and this despite the fact that small economic operators were not yet obliged to invoice electronically (only from 18 March 2023), and large and medium-sized economic operators had only been sending eInvoices since 18 May 2022 and 18 October 2022, respectively. About 500 public sector bodies can receive eInvoices via Peppol in the meantime.

3.4 Domain-specific Legislation

No legislation has been adopted in this field to date.

3.5 Innovative Technologies

3.5.1 Artificial Intelligence (AI)

No legislation has been adopted in this field to date.

3.5.2 Distributed Ledger Technologies

Law on the Circulation of Securities

A new [Law on the Circulation of Securities](#) was published on 1 March 2019, amending the law of 1 August 2001. The purpose of this law is to create a legal framework enabling the circulation of securities by means of the new secure electronic registration technologies, in particular those based on the blockchain, with the aim of increasing legal certainty in this area.

Law on the Issuance of Dematerialised Securities Using the Distributed Ledger Technology

The [Law of 22 January 2021 on the Issuance of Dematerialised Securities Using the Distributed Ledger Technology](#), modifying the amended Law of 5 April 1993 on the Financial Sector and the Law of 6 April 2013 on Dematerialised Securities, introduces the possibility to use the distributed ledger technology (blockchain) for dematerialised securities. The law pursues the modernisation of Luxembourg securities laws along two directions:

- The introduction of a definition of what constitutes an issuance account in the Law on Dematerialised Securities. This is a novelty and will allow for a variety of technologies to be adopted; and
- The expansion in the scope of entities that may be considered as a central account keeper.

3.5.3 Big Data

No legislation has been adopted in this field to date.

3.5.4 Cloud Computing

No legislation has been adopted in this field to date.

3.5.5 Internet of Things (IoT)

No legislation has been adopted in this field to date.

3.5.6 High-performance Computing

No legislation has been adopted in this field to date.

3.5.7 High-speed Broadband Connectivity

No legislation has been adopted in this field to date.

3.5.8 GovTech

No legislation has been adopted in this field to date.



4 Digital Public Administration Infrastructure

4 Digital Public Administration Infrastructure

4.1 Platforms and Applications

4.1.1 National Platforms and Applications

new GovTech Lab Luxembourg

On 26 November 2020, Marc Hansen, Minister Delegate for Digitalisation, [presented](#) the concept of the new [GovTech Lab](#) of the Luxembourg government. One of the Ministry's strategic axes is the development of eGovernment and the GovTech Lab constitutes an integral part of the actions that the Ministry is implementing in this area. The GovTech Lab combines GovTech and open innovation in order to accelerate the development and further improvement of digital public services.

The GovTech Lab, which is the result of a cooperation between the Ministry for Digitalisation and its technological arm, the CTIE, aims to encourage and support a culture of innovation and change within the State in order to rethink existing procedures and operational flows, and integrate principles such as digital by default, design thinking or service by design when conceiving new solutions.

For its calls for solutions, the Ministry for Digitalisation has opted to make the widest possible use of the innovation partnership, which allows a broader participation of external players thanks to a more open public procurement procedure which is articulated in different phases. In 2021, the Ministry for Digitalisation also set up SpeedUP, a faster way to launch calls for solutions more precisely for smaller-scale projects, or conceptual or juridical analyses. With a maximum of eight months from the launch of the call to the implementation of the solution, the SpeedUP procedure enables the Ministry to accelerate the identification of appropriate solutions as well as their integration.

In early 2022, the Ministry for Digitalisation also introduced a new collaborative platform enabling State agents to actively participate in the digitalisation of public services. This platform is based on a co-creative approach, and seeks ideas and proposals from State agents through the launch of calls for challenges issued by Ministries. The input collected through the platform will be transformed into calls for solutions by the GovTech Lab in the form of innovation partnerships or SpeedUPs, or into regular projects by the CTIE.

luxe.lu

The [official portal of the Grand Duchy of Luxembourg](#) offers general information on various subjects, together with a thematic directory of links that guides users to sites that offer detailed information on their topic(s) of interest. This site is useful not only for the inhabitants of Luxembourg, but also for the consular and diplomatic network as well as any foreigners wishing to find pertinent information on Luxembourg.

[Guichet.lu](https://guichet.lu)

On 17 November 2008, the government of Luxembourg launched the [Guichet.lu portal](#), which targets both citizens and companies, and acts as a single point of contact (SPOC) for their interactions with the administrative bodies. The portal was then [relaunched](#) on its tenth anniversary.

Guichet.lu comprises information on various topics and related administrative procedures, grouped by ten major themes for citizens and ten major themes for companies.

The portal's primary objective is to improve the value and quality of eServices, integrating various administrative formalities on a single internet portal that gathers all relevant procedures, forms and information made available by the State. With an offer of functionalities that is constantly growing, the interactive portal MyGuichet.lu allows its users to:

- Carry out administrative procedures in a simple and transparent manner reusing their personal data from authentic sources;
- View their personal data held by official bodies through authentic sources, e.g. information on obtained housing aid;
- Receive electronic documents issued by official bodies (eDelivery); and

- Book an appointment online with administrative bodies (for the recent evolution of MyGuichet.lu, see below).

In order to make full use of the different functionalities, such as authentic sources and eDelivery, users have to log in to their personal space with an electronic authentication certificate ([LuxTrust Token](#), Smartcard, Signing Stick or ID Card). These certificates guarantee highly secure information exchanges and personal data confidentiality along with an eSignature.

The CTIE has started a project to integrate a new low code platform in the CTIE infrastructure. This will facilitate the transformation of PDF forms into true webforms that can easily be submitted through MyGuichet.lu (with better user experience and better accessibility). Furthermore, since the end of 2019, 24 descriptive factsheets on administrative procedures have been published in German plain language (*Leichte Sprache*) on the Guichet.lu information portal, with the aim to help people with limited reading and writing skills to navigate and get information through the portal. Moreover, since 2022 the Guichet.lu team has also published four procedures in French plain language (*facile à lire et à comprendre*).

In July 2021, the CTIE also [published](#) the new mobile app MyGuichet.lu so that users can access digital public services directly on their smartphone. For more information on the app MyGuichet.lu and its evolution, see below.

The eGovernance Strategy 2021–2025 mentioned in Section 3.1, drawn up jointly by the Ministry for Digitalisation and the CTIE, and the related roadmap established by the Inter-ministerial Committee for Digitalisation, imply that the CTIE as well as the public administrations undertake measures on the front-end level (i.e. the interfaces of the online public services that face the citizens/companies) and back-end level (i.e. the applications that allow government entities to process the citizens' requests) in line with the principles of 'digital by default', 'Once-Only', 'inclusion and accessibility', 'openness and transparency', 'reliability and security' as well as 'interoperability and standardisation'. With regard to the back-end level, since 2013 the generic back office for MyGuichet.lu is the administration counterpart of MyGuichet.lu and allows governmental bodies that do not have a specific back-office application to receive procedures transmitted by MyGuichet.lu. This is an accelerator for the digitalisation of procedures because no specific back office needs to be developed. Also, there are considerations to modify the national legislation in order to allow a digital signature on administrative acts. This will ensure that a governmental body can sign administrative decisions digitally and return them to the applicant also digitally, allowing to enlarge the offer of end-to-end digital procedures to citizens and companies.

MyGuichet.lu Application

On 5 July 2021, Marc Hansen, Minister Delegate for Digitalisation, presented the new mobile application MyGuichet.lu, developed by the CTIE. This application allows citizens to access their private space in MyGuichet.lu using their smartphone or tablet. In a world which is increasingly focused on mobile solutions, this new means of access to MyGuichet.lu is a major achievement in the context of the commitment set out in the eGovernance Strategy 2021–2025 to offer citizens 'cross-media' accessibility of digital public services, accessible on smartphones and tablets. This is an essential step towards a modernisation of digital public services.

Since its launch, the MyGuichet.lu app has offered a number of procedures and functions:

- Carrying out and following up administrative procedures;
- Adding attachments using a mobile phone's camera;
- Consulting communications; and
- Directly accessing CovidCheck certificates.

The range of possible procedures from the MyGuichet.lu app has then been regularly expanded and personal data which were only available in the MyGuichet.lu private space are now visible also using the mobile application.

Moreover, the functionality to electronically sign an online procedure via MyGuichet.lu has been integrated into the app. This new feature makes additional administrative procedures requiring an eSignature available through the app, such as the declaration of change of residence or postal voting requests for elections. Furthermore, the online payment functionality (by credit card or smartphone) allows the user to pay for his/her procedure directly through the app MyGuichet.lu. These two features make it possible to offer more online procedures through the app. Overall, the goal is to persuade more citizens/businesses to interact online with administrations.

Currently, people must have a private eSpace on MyGuichet.lu and pair it with the app before they can use all its features. In order to enable more citizens to use MyGuichet.lu, developments are underway to:

- make the pairing between the private eSpace and the app optional: the user can then authenticate directly in the app and use all its features (by mid-2023);
- allow new users to register and create their private eSpace directly in the app.

These developments address new trends in society, whereby mobile equipment is increasingly replacing conventional computers. This measure is directly in line with the eGovernance Strategy 2021–2025, which provides for the cross-media development of online public services and supports an omni-channel policy for the delivery of public services (by the end of 2023).

MyGuichet.lu Web Portal - Modernisation of MyGuichet.lu's Private eSpace

The CTIE teams have invested their efforts in modernising the technologies on which MyGuichet.lu's private eSpace is based. Users, citizens and businesses now benefit from a web interface that is even more responsive and adapted to the new habits of internet users. One of the main novelties lies in the responsive design principle, that is to say that the interface adapts now to any type of device. Users can therefore connect to MyGuichet.lu from their smartphone, tablet or computer through the browser, and use all the features wherever and whenever they want. The responsive design interface and the mobile application are both part of the strategy of the Ministry for Digitalisation and the CTIE to promote cross-media provision and omni-channel use of public services, i.e. to allow citizens and companies to use the channel (digital or analogue) and the device (smartphone, tablet or computer) that suits them best.

In addition, great efforts have been invested in the accessibility of the interface. The look has been modernised and brought closer to that which users know from the mobile app MyGuichet.lu, while the features known and appreciated by the public remain unchanged (see above). In order to better guide users, the online guide has also been completely reworked.

new GouvID App

The [GouvID app](#), made available by the Luxembourg government, enables citizens to use their Luxembourgish eID together with their smartphone to identify themselves on a PC or tablet to certain online public services such as MyGuichet.lu. The GouvID app can also be used to sign, after completion, MyGuichet.lu procedures requiring an eSignature. The advantages are:

- No need of a specific card reader, as the smartphone works as a contactless card reader;
- Always at hand, as the connection is made through the user's identity card and smartphone; and
- Easy to use, as GouvID allows users to use the biometric features (facial recognition, fingerprint, etc.) of the smartphone to log in without having to use the PIN code of the identity card.

new GouvCheck

The CTIE launched [GouvCheck](#), a mobile application which allows any person to verify the authenticity of an official document issued by an administrative body. Currently 35 official documents carry a GouvCheck QR Code, whose authenticity can be verified by scanning the QR Code (on the document) with the GouvCheck app.

GouvCheck allows to print out an electronically signed document, and still be able to verify the eSignature and the authenticity of the information on the document. To that end, a GouvCheck QR code is put on the document, for example a certificate of residence. Anybody who wants to check the authenticity of the document (civil agent, citizen or others) downloads the GouvCheck app and scans the QR code.

The app validates the eSignature contained in the QR code and displays additional information that is also included in the QR code. This information should also be present in clear text on the document. The user can then compare this information, and make sure that the QR code and the document belong together.

etat.public.lu

The [etat.public.lu website](https://etat.public.lu) is a directory of all Luxembourgish public websites, which are grouped by theme into three categories: State affairs, online portals and Ministries. It also provides all Ministries and administrations' phone numbers. Furthermore, newly launched websites are highlighted.

gouvernement.lu

The [website gouvernement.lu](https://gouvernement.lu) is the information portal of the government press and information office. It gathers all information – such as news and press releases – concerning the Luxembourg government. The portal was relaunched in February 2018, making it available in four different languages: French, German, English and Luxembourgish.

data.public.lu

The use and reuse of data is driven forward in the context of the national Open Data Strategy. data.public.lu is the official portal for open data. Luxembourg ranked [sixth in the field of open data environment](#) in the EU.

sante.lu

sante.lu is the official portal for all health-related topics.

transports.public.lu and mobiliteit.lu

transports.public.lu and mobiliteit.lu are the official portals for transport-related subjects in Luxembourg. On mobiliteit.lu, users can interact and ask any questions related to public transport in Luxembourg. Buses, trams and trains' schedules can be checked in real time. Users can also access various services on Guichet.lu through the portal.

new justice.lu

[Justice.lu](https://justice.lu) is the official portal of the courts and of the judicial system for all topics related to the judiciary.

legilux.lu

legilux.lu is the official legal journal of the Grand Duchy of Luxembourg, i.e. the portal where all laws and other legal norms are officially published.

chd.lu

chd.lu is the Parliament's website. All parliamentary work is available for public consultation, including law projects and sessions. Public petitions can also be signed online.

eDouane

[eDouane](https://edouane.lu) is an interactive platform for online services that enables businesses to process online all customs-related paperwork regarding the Grand Duchy of Luxembourg. The portal was completely relaunched in September 2018.

geoportail.lu

Luxembourg's national official geoportal, geoportail.lu, is a governmental platform which gathers, describes and publishes geospatial data and related products. It has the great advantage of functioning as an integrator of the data supplied by various public actors such as Ministries, administrations, public enterprises and municipalities, but also private firms. All the data are grouped and displayed together in the map portal. This collaboration has also helped to initiate common projects of data sharing, data creation, project management and knowledge transfer between all involved actors.

In addition, on 29 December 2019 the government also launched a new [mobile application](#) displaying topographic maps, aerial photos and cadastral parcels.

Zesumme Vereinfachen

The platform [Your Ideas \(Vos Idées\)](#), created in 2014, allows the government to collect public proposals and suggestions. Based on collaboration and exchange of ideas, it invites citizens to contribute and thus actively take part in the digital transformation process of public services. After a review by the Ministry for Digitalisation the platform has been adapted to [Zesumme-vereinfachen.lu](#). It is expected to gather feedback from citizens and companies on specific administrative processes via online polls. This platform was presented to the public in February 2022.

National Portal for Public Inquiries

The [national portal for public inquiries](#), available in four languages (French, German, English and Luxembourgish), allows citizens to find out about public inquiries in progress. It also presents official notices relating to public inquiries and administrative decisions. In addition, it offers interested parties an explanatory guide to administrative procedures and an agenda of the planned information meetings, as well as the contact details and hours of entities organising hotlines.

Out of 62 administrative procedures that could trigger a public inquiry, 24 (39%) were deployed on the portal at the end of December 2022. Some 250 public inquiries were posted on the portal during the same year.

4.1.2 Subnational Platforms and Applications

[communes.lu](#)

[communes.lu](#), edited by the Association of Luxembourg's Cities and Municipalities (Syvicol), is the official portal of the municipalities with, among others, links to their specific websites.

4.2 Networks

RACINE

RACINE is the secure inter-administration computer network that connects the buildings of the public administration. It allows administrations to access IT services and exchange data with the highest level of security. It also connects the internal State infrastructure to the outside world, i.e. it provides administrations with access to the internet and international networks. The network is set up and maintained by the [CTIE](#).

Trans European Services for Telematics between Administrations

Luxembourg uses the [Trans European Services for Telematics between Administrations \(TESTA\) network](#) as the main cross-border infrastructure to communicate digitally among the EU agencies, institutions and Member States.

4.3 Data Exchange

new National Platform for Data Exchange

The National Platform for Data Exchange (*Plateforme nationale d'échange de données*, PNED) was established at the end of 2022 upon initiative of the Ministry of Higher Education and Research with the following missions:

- Covering the whole data value chain while having a central structure for the provision of the services needed;
- Giving stakeholders in the public and research sectors the opportunity to use combined data sources while being compliant with data protection legislation; and
- Being able to offer strong data partnerships to corporate partners in the context of public-private partnerships with a view to developing new and innovative data-driven services and products.

In addition, training stakeholders in the field of data science and secondary use of data is also part of the missions of this newly created structure.

4.4 eID and Trust Services

eID and eSignature

In Luxembourg, a common national eSignature, used by both the public and private sectors and managed by the private company [LuxTrust](#), has been available for more than ten years.

LuxTrust is the central eIdentity infrastructure in Luxembourg providing several products connected to a person, such as tokens, smartcards or signing sticks. It is a public/private partnership created to manage the development of a common Public Key Infrastructure (PKI) in order to secure eCommerce and eGovernment in Luxembourg. The consortium that was awarded the PKI contract was presented in July 2006.

LuxTrust is the standard solution used for qualified eID and eSignature in the context of online administrative procedures. It is used by all important banks for online banking and it is therefore offered by banks to their clients free of charge. Furthermore, the progressive introduction of biometric documents in Europe forces Member States to have highly secure certification services in order to protect their official documents. Consequently, LuxTrust will adhere to the relevant international standards in order to be in a position to protect the biometric documents issued in Luxembourg. This will initially apply to biometric passports.

Any EU citizen and business can use their own national eID scheme (if notified) to access public services on the personalised platform MyGuichet in Luxembourg.

Draft Secure Platform for Public Documents

The purpose of affixing a digital identifier to a public document is to guarantee digital inclusion by allowing to continue to make available the various documents and files in paper form to citizens who cannot or do not wish to opt for a digital approach, while guaranteeing the possibility for the administrative authorities and other entities to electronically sign administrative acts. The digital identifier thus allows any citizen to whom the document is addressed, and any administration to which a citizen presents a copy of the act, to access the place where the original document is stored and to become acquainted with it.

In this context, the Secure Platform for Public Documents will allow:

- The affixing of digital identifiers on public documents;
- The electronic storage of originals with a digital identifier; and
- Access to the storage location through a digital ID.

The Secure Platform for Public Documents, together with the various provisions of the Draft Law on the Electronic Signature of Administrative Documents, will contribute to the digitalisation of the public administration, by facilitating the conclusion of administrative acts in digital format. Many internal procedures and procedures based on a signed act can thus be digitised.

Electronic Signature Verification and Validation Platform

The Electronic Signature Verification and Validation Platform aims to allow State agents to verify and validate electronic signatures of all European countries in accordance with the requirements of the eIDAS Regulation. The user uploads the document to the platform, which validates the electronic signatures, stamps and timestamps present on the document on the basis of the European trusted lists. The platform then presents the results of the validation in a simplified way. It further allows to download a detailed report and print the validation summary in a print-friendly format. After the validation report is issued, the document is destroyed automatically on the platform.

With the aforementioned Draft Law on the Electronic Signature of Administrative Documents and Secure Platform for Public Documents, providing for the possibility to use qualified electronic signature in administrative matters, the needs in terms of verification of electronic signatures will increase. The Electronic Signature Verification and Validation Platform will address those needs.

Cybersecurity Competence Centre

The new [Cybersecurity Competence Centre \(C3\)](#), established at the end of 2017, promotes the national cybersecurity ecosystem by focusing on three areas of expertise: observation, training

and testing. In the area of training, different modules are offered, including simulation tools for cyberattacks. To contribute to job access for men and women, workshops facilitating job re-skilling are proposed and short-term certification possibilities based on local needs are also offered.

Luxembourg House of Cybersecurity

The Luxembourg House of Cybersecurity is the backbone of leading-edge cyber resilience in Luxembourg, and aims at capitalising on and further developing innovation, competencies, collaboration and capacity building.

4.5 eProcurement

Public Procurement Portal

A [central public procurement portal](#) was created in February 2006. This portal includes an informative part on legal issues related to eProcurement, as well as a platform for (i) publication of calls for tender, tender documents and terms of reference; (ii) electronic submission of tenders; (iii) electronic catalogues; and (iv) electronic auctions. The platform provides businesses with a one-stop research and notification tool on opportunities in the public sector.

Peppol

The [Peppol](#) access point, which allows to receive and process eInvoices in the context of public procurement, was implemented at the end of 2016. This platform is adapted and amended regularly in order to keep up with users' needs.

4.6 ePayment

Payconiq

A solution allowing the use of [Payconiq](#) for electronic payments on MyGuichet.lu was set up in collaboration with the CTIE, enabling users to make payments to different administrations, such as:

- Motor vehicle taxes (Customs and Excise Agency);
- Certain fines (Grand-Ducal Police); and
- [eID and passport](#).

The online payment functionality (by credit card or smartphone) allows the user to pay for his/her procedure directly through the MyGuichet.lu app. This feature makes it possible to offer more online procedures through the app in order to persuade more citizens/businesses to interact online with administrations.

4.7 Knowledge Management

Document Management System Programme

In 2019, the CTIE launched an ambitious programme to replace the previous electronic document management tool with a new generation platform that can be used by all administrations and contribute to digital collaboration between the different State's bodies. The project aims to implement a central platform offering all the functionalities necessary for electronic document and case management, and to deploy specific instances in each of the State entities.

The new Document Management System (DMS) has additional functionalities that go beyond a classic electronic document management tool and provides its users with case, process and workflow management. The new DMS focuses on document production, i.e. the creation of electronic documents, as well as their electronic signature and versioning. Moreover, a seamless integration with the State's eArchiving solution is assured, in order to guarantee the preservation and durability of the documents in accordance with legal obligations in terms of archiving.

In 2021 several activities were carried out in relation to the DMS:

- the platform was installed and deployed on the CTIE infrastructure;
- the platform was interfaced with existing solutions, such as the digital archiving platform;
- a first Proof-of-Concept (for the CTIE) was implemented; and
- the on-boarding concept for the other administrations was implemented.

In 2022 the component for the electronic management of documents was put into production.

With the entry into force of electronic invoicing, provided for by the law of 13 December 2021, the development teams implemented a module for the reception and centralised management of eInvoices. The module allows a homogenisation of the process of receipt of eInvoices based on the receipt, storage and management of all eInvoices transmitted to the Luxembourg State in a single and unique system. After deployment as a pilot by the Ministry for Digitalisation and the CTIE in 2022, the objective is to set up this module with all Ministries and administrations from 2023. Each State administration should therefore have access to Hive at the end of the deployment of this module and be able to familiarise themselves with the new software even before their dedicated on-boarding project is finished.

Data Centres

Taking full advantage of its strategic location, and of massive private and public sector investments, Luxembourg has become a key hub for ICT with [highly secured data centres](#). In fact, Luxembourg has the highest density of TIER IV data centre infrastructures in Europe. Creating a strong general infrastructure and high-performance data centres is an essential element of the Digital Luxembourg Strategy. These data centres use very large and continuously growing cloud technologies.

Intensive negotiations with Google, one of the greatest multinational technology companies specialised in internet-related services and products, were launched by the government in order to implement the EUR 1 billion European Google Data Centre in Luxembourg (Bissen). In October 2020, the Municipal Council of the town where the Google Data Centre is planned to be built approved Google's construction project. The project holds an [important place](#) in the government's digital strategy and its orientation towards a data-driven economy. In March 2023, Google announced the creation of a Google entity in Luxembourg, focussing on the security of cloud solutions.

Furthermore, Luxconnect, together with Proximus (Belgium and Luxembourg), announced the creation of a [sovereign cloud solution](#), tailored to the needs of private and public entities as well as international institutions and organisations.

In 2019, it was announced that in 2020 Luxembourg would also host the European Investment Bank data and IT systems, in the new data centre located in Bissen. The electronic virtual archives of the [European Patent Office](#) and the backed-up IT infrastructure of the European Commission are already housed in Luxembourg's data centres, which are operated by the CTIE.

new Once-Only principle and Transparency Management

Luxembourg has been systematically implementing the [Once-Only principle \(OOP\)](#) for more than five years now.

Via their personal space on [MyGuichet](#), users have the possibility to access the data that public administrations keep on them online in around 15 authentic sources. For some of these authentic sources, users can also request online the correction of data that they do not consider accurate and can reuse most of these data in the context of administrative procedures. Furthermore, for some of the authentic sources, they can check directly online what organisation has accessed their data and ask the organisation to justify their access, if they have legitimacy concerns.

As part of its action plan, the [National Inclusion Commission \(CNI\)](#) has mandated the Once-Only Principle Transversal Thematic Working Group (GTTT OOP) to "systematize and accelerate the Once-Only approach". The working group is made up of representatives of the different sectors of the National Committee for Interoperability, as well as people from the Ministry for Digitalisation and other public sector bodies specifically chosen for their skills in this area. In addition, members of the Inter-ministerial Committee for Digitalisation, which has also included the Once-Only principle in its roadmap as a priority action, are also part of the working group. The coordination and the Secretariat of the GTTT OOP are provided by the Ministry for Digitalisation.

During the first meeting of the GTTT OOP on 21 March 2022, its members decided to first call on sub-groups to study with a small number of people certain more specific aspects of the Once-Only principle. Four sub-groups were created in 2022:

1. Legislation Sub-group: the sub-group analyses the opportunities, the challenges and the potential of the Once-Only principle from a legal point of view and reflects on possible solutions to generalise it at the level of the Luxembourg public sector. A first meeting took place on 18 October 2022;
2. Automated/Proactive eGovernment Sub-group: a first meeting was held on 6 July 2022 to launch a discussion on the topics of automation and proactivity of administrative procedures. Based on concrete life events (birth, death, etc.), the Sub-group decided to analyse the current state of the relevant procedures and the potential benefits of applying the Once-Only principle, as well as to propose trajectories for achieve its implementation. On 24 October 2022, the Sub-group met a second time and decided to work in a first phase on the following four life events: birth of a child, death of a close person, application for service checks and creation of a business;
3. Data Broker Sub-group: the sub-group has the mandate to analyse the integration and implementation of a central data intermediation approach as well as its benefits for the Once-Only principle. During the first meeting on 14 July 2022, the Ministry for Digitalisation presented the preliminary results of the Data Broker Study;
4. MyGuichet.lu - Once-Only Principle by Design Sub-group: the sub- group has the mandate to (i) highlight the implementations and functionalities that already exist at the level of the generic back office of MyGuichet.lu in terms of the Once-Only principle; and (ii) analyse the prerequisites for a more thorough and systematic integration within the framework of existing and future administrative procedures, with the aim of strengthening in particular transparency (e.g. monitoring of access to authentic sources or possibility of modifying incorrect data) and trust in reliable administrative management (accountability).

4.8 Cross-border Infrastructures

EUCARIS

Since the early 90s, Luxembourg, together with other four EU Member States (Germany, Belgium, the Netherlands and the United Kingdom) has been involved in the first form of cooperation in the field of data exchange regarding the [European Car and Driving Licence Information System \(EUCARIS\)](#), an organisation called after the name of the implemented system itself.

Data Embassy

The Estonian government is using a data embassy infrastructure to host a copy of their most important servers and databases, and Luxembourg hosts this very first [Data Embassy](#) ever.

In addition, the Grand Duchy of Luxembourg and the Principality of Monaco agreed in 2018 to launch a study to safeguard sensitive data in a Luxembourg data centre with immunity guarantees and privileges resembling those of the above-mentioned Data Embassy. In 2020, the Principality of Monaco announced that the country will opt for hosting a sovereign cloud while Luxembourg will host its digital twin. This will allow Monaco to have at least 120 km between two storage points, thus applying the recommended security standard. The decision to open the Data Embassy was sealed in July 2021, when Luxembourg Prime Minister Xavier Bettel and the Monegasque Minister of State Pierre Dartout signed an agreement regarding the hosting of Monegasque data and information systems in Luxembourg. The agreement was based on a declaration of intent dating from 2018.

Digital Europe for All

Since the beginning of 2020, Luxembourg has been participating in the European Digital Europe for All (DE4A) project funded through the European Horizon 2020 programme. DE4A aims to set up, via a large-scale pilot involving many EU Member States, reusable solutions which make it possible to practically apply the Once-Only principle in the context of cross-border administrative procedures. The effective application of this principle is an essential element in the framework of a policy of administrative simplification and administrative burden reduction.

The project is important, complex and very ambitious, and, among other things, also aims to help provide the basis for the cross-border Once-Only principle procedures that will become mandatory in the coming years under Regulation (EU) 2018/1724 of the European Parliament and of the Council of 2 October 2018 establishing a single digital gateway.

Many meetings were held in 2022. Luxembourg also made a significant contribution in terms of solution designing, and proofreading and quality assurance of documents. The work to carry out the pilot in which Luxembourg is participating as part of the project - i.e. the establishment of a completely online procedure which allows the change of habitual residence across borders by reusing electronic supporting documents provided by the central system set up under DE4A - will end in 2023.

4.9 Base Registries

RESTENA

Luxembourg has an infrastructure network called [RESTENA](#) connecting all government institutions. It is set up and maintained by the CTIE and it is the communications system that represents the network backbone for public administrations.

REGINE and RP.REG.

REGINE is the National Registry of Digital Company Identifiers. It is a database storing the company identification number of companies in Luxembourg that is currently replaced by the RP.REG. The REGINE Registry (RN.RPM) aims to automatically determine and allocate a company identification number (INE) on the occasion of any new registration by the REGINE Manager of a Client Legal Person (PM) concerned. Relevant and necessary information is managed through REGINE's 'Minimalist Dataset'.

Trade and Companies Registry

The [Trade and Companies Registry](#) (*Registre de Commerce et des Sociétés*, RCS), managed by the Luxembourg Business Registries, is an official inventory of all natural and legal persons engaged in trade which helps to identify the persons whose registration or subscription is required by law.

National Registry of Natural Persons

The [National Registry of Natural Persons](#) groups all data relating to the identification of natural persons (residents or non-residents) who are in contact with a national government administration or public body.

Complete List of Base Registries

A complete list of the base registries and the respective competent administration is provided below:

- National Registry of Natural Persons (RNPP) – CTIE;
- Trade and Companies Registry - Luxembourg Business Registries;
- Land Registry - Cadastre and Topography Administration;
- Communal Registry – Cadastre and Topography Administration;
- Database of Vaccinations against COVID-19 - Health Directorate;
- Database of Infectious Diseases - Health Directorate;
- Central Registry of De Minimis Aid - Ministry of Economy;
- Registry of Beneficial Owners - Luxembourg Business Registries;
- Registry of Trusts and Fiduciary Contracts - Registration Duties, Estates and VAT Authority;
- NACE Codes – STATEC;
- Database of Business Permits - Ministry of Economy;
- Registry of Legal Persons - CTIE;
- Database of Businesses in the Food Sector - Government Commissariat for Quality, Fraud and Food Safety;
- Inland Navigation Qualifications - Ministry of Mobility and Public Works;

- Criminal Records - Public Prosecutor's Office;
- Database of Nationality - Ministry of Justice;
- Central Registry of Last Wills and Testaments - Registration Duties, Estates and VAT Authority;
- Database of Identity Cards - Ministry of Home Affairs;
- Database of Certificates of Physical Fitness - Ministry of Sport;
- Database of Passports - Ministry of Foreign and European Affairs;
- Database of Resident Permits - Immigration Directorate;
- Firearms Licenses - Ministry of Justice;
- Register of Educational Certificates - Ministry of Higher Education and Research;
- Database of Jobseekers - National Employment Agency;
- Database of Vacant Positions - National Employment Agency;
- Database of Road Vehicles and their Owners and Holders - National Society of Automotive Traffic;
- Database of Driving Licenses - National Society of Automotive Traffic;
- Public Shipping Registry - Luxembourg Maritime Administration;
- Registry of Drone Operators and Certified Drones - Directorate of Civil Aviation; and
- Registry of Services for Elderly People - Ministry of Family Affairs, Integration and the Greater Region.

4.10 Innovative Technologies

4.10.1 *Artificial Intelligence (AI)*

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

4.10.2 *Distributed Ledger Technologies*

Blockchain

Infrachain a.s.b.l. is a Luxembourg-based non-profit organisation, created by the emerging blockchain industry and supported by the Luxembourg government, aiming to implement blockchain technology solutions in a trusted manner in the current regulatory environment. During the [Infrachain Summit](#) on 23 May 2019, Marc Hansen, the Minister Delegate for Digitalisation, announced a first public sector blockchain platform which will be operated by a range of public sector actors, including the CTIE and the SIGI. The public sector blockchain will help to improve the transparency, reliability and security of the public sector's digital information and process systems.

Since December 2019, Infrachain has also been leading a consortium of main actors from the technology ecosystem to set up a blockchain hub of excellence, in line with the strategic ambitions of *Digital Lëtzebuerg*. Their goal is to create a landmark EU hub in Luxembourg for blockchain research, education and industry projects, as well as to develop industry facilities and competences that will foster the deployment of the latest blockchain and distributed ledger technologies.

Another example in the field is the project that the CTIE implemented in 2019, namely a [notary system](#) based on blockchain to demonstrate the benefits of this technology.

4.10.3 *Big Data*

No particular infrastructure in this field was reported to date.

4.10.4 *Cloud Computing*

GovCloud

The CTIE has been operating GovCloud since 2016. GovCloud is a sovereign cloud of the private type, i.e. restricted to customers of the public sector. It is managed under the Infrastructure as a Service (IaaS) principle, which means that the CTIE provides administrations with a centralised

infrastructure which they can use according to their needs. Using a centralised cloud gives the government the following benefits:

- operational flexibility: each administration can use the GovCloud infrastructure according to its needs, i.e. it can increase or decrease autonomously and by self-service the computing capacity or storage used by its applications, and thus adapt them to its current needs; and
- innovation: the CTIE is constantly expanding its infrastructure offer to enable public administrations to have access to the latest technologies. In 2022, the CTIE expanded its Storage as a Service offer by making the S3 cloud data storage type available to its customers. This recent standard allows applications to back up objects that can include files, images, videos and data, and that can be easily accessed through a web interface or API. It features high scalability, high availability and robust security options.

Noteworthy, considering that administrations do not operate their own infrastructures, a centralised cloud also fits perfectly into a policy of cost rationalisation and energy savings.

4.10.5 *Internet of Things (IoT)*

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

4.10.6 *High-performance Computing*

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

4.10.7 *High-speed Broadband Connectivity*

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

4.10.8 *GovTech*

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



5 Digital Public Administration Governance

5 Digital Public Administration Governance

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

5.1 National

Ministry for Digitalisation

Following the general elections on 14 October 2018, Luxembourg's new government created a [Ministry for Digitalisation](#) in charge of all the topics linked to digitalisation and responsible for guaranteeing even higher speed and quality. The Ministry for Digitalisation is a facilitator and coordinator for other Ministries and other partners wishing to develop their activities in the field of digitalisation and eGovernment. Offering more eGovernment services in collaboration with the CTIE is one of the top priorities of the newly created Ministry, in order to foster the modernisation of public administrations, and improve the daily life and administrative processes of citizens and businesses. Assisted by the CTIE, the Ministry is also the main body responsible for interoperability activities in Luxembourg.

In this framework, the Ministry for Digitalisation has set the goal of successfully achieving digital government. The Ministry's [four strategic axes](#) contributing to this goal are the following: (i) developing eGovernment; (ii) advancing administrative reform; (iii) promoting digital inclusion; and (iv) integrating new technologies.

The specific competences of the Ministry for Digitalisation were defined by the [Grand Ducal Decree on the Establishment of Ministries](#) on 5 December 2018 and can be summarised as follows:

- Implementation of the Digital Luxembourg Strategy and monitoring of the ICT sector (shared competence with the Minister of Economy, and the Minister for Communications and Media);
- Promotion of the ICT sector (shared competence with the Minister of Economy);
- Digitalisation of administrative procedures and digital transformation of the public administration;
- Follow-up on the work of the High Committee for Digital Transformation;
- Development and implementation of a plan on the Internet of Things;
- Development of the digital infrastructure (in consultation with the Minister for Communications and Media);
- Development of a national strategy in the field of AI (in consultation with the Minister for Communications and Media, and the Minister of Economy);
- Implementation of the national 5G Strategy and development of pilot projects (in consultation with the Minister for Communications and Media);
- Assurance of a policy of digital inclusion;
- Promotion and organisation of State administrations' automation, in particular as regards the collection, transmission and processing of data;
- Search for synergies between the different Ministries and optimisation of their exchange of information;
- Assistance to the various administrations of the State in the execution of the routine IT work, and the management of fixed and mobile communication systems; and
- State electronic filing.

In February 2020, the Ministry for Digitalisation set up an Inter-ministerial Committee for Digitalisation in Public Administration. The committee is chaired by the Ministry for Digitalisation and the CTIE, and includes members responsible for the digital transformation in other Ministries. It meets on a regular basis to take stock of Luxembourg's digital projects and to set a coordinated agenda of initiatives aiming to reinforce eGovernment in Luxembourg.

Due to the restrictions linked to the Covid pandemic, the second central component of the digital governance structure, the High Committee for Digital transformation, was only established in September 2022. It brings together the various Ministries, representatives of civil society and experts from several backgrounds. By its composition, the High Committee is dedicated to considering the challenges of digitalisation from various perspectives affecting the economy, work, education, health, continuing education or digital public services. Its members meet twice a year to [propose, analyse and discuss potential initiatives and projects](#) to advance digital government, while considering the digital inclusion of all citizens.

Government IT Centre

The **Government IT Centre** (*Centre des technologies de l'information de l'État*, CTIE) was established in 2009. It constitutes an active part of the Ministry for Digitalisation and is the main administration of the government in the fields of eGovernment, IT and modernisation of the State through ICT.

More specifically, the CTIE provides service coordination and planning to government bodies, and assists those bodies in the reorganisation and optimisation of their tasks. To this end, the Centre coordinates the following activities:

- Organisation of the automation of government departments regarding the collection, transmission and processing of data;
- Development and maintenance of administrative processes' mapping and their interoperability status;
- Provision of organisational support to State administrations and assistance in their reorganisation efforts; and
- Identification of synergies between the various State administrations and optimisation of the information exchange among them.

The CTIE is also responsible for implementing the provisions that originate directly from the government programme and the eGovernment Strategy. In addition, it is the administrative body responsible for IT services for Luxembourg's government, Ministries and public administrations. It offers a wide range of services to its clients, namely more than 14 000 end users in the public administration. These services cover all areas of IT, including network and communication infrastructure, hosting, private cloud (Infrastructure as a Service or IaaS), platforms (Platform as a Service or PaaS), generic and customised software solutions (Software as a Service or SaaS), as well as related services such as secure document generation, individualised mass printing, etc. The CTIE also manages office automation and telephony for Ministries and administrations, and is responsible for implementing and enforcing the State's IT infrastructure security policies.

Furthermore, the CTIE is responsible for specific tasks, such as the management of the Guichet.lu Portal, the SPOC for citizens and businesses for carrying out public procedures. The portal's interactive MyGuichet.lu platform offers modern and easy-to-use digital services and is a key element of Luxembourg's digital strategy. In addition to a support centre (helpdesk) for the internal and external users of the systems operated by the CTIE, the CTIE also runs the Guichet.lu Helpdesk, whose primary goal is to help citizens and enterprises carry out their administrative procedures.

The responsibilities for different aspects (legal, operational, semantic or technical) of the main base registries in Luxembourg are partially decentralised to the registry itself and partially centralised to a central organisation. Most of the responsibilities are managed in a decentralised way by each authority in charge of the corresponding registry, and include the operational and legal ownership of the registry, the operational aspects, such as service levels and access formalities, and the decision on semantic levels. Such authorities are, for example, the National Society for Technical Control (SNCT), the Ministry of Justice, the Ministry of Finance, and the Cadastre and Topography Administration of the State of Luxembourg. In this field, the CTIE enables the digital exchange of information across the public sector. Its responsibilities are, aside from maintaining one specific registry (the RNPP), to provide general support for interoperability between administrations and to devise a broader strategy that drives the evolution of base registries.

Ministry of State - Department of Media, Connectivity and Digital Policy (SMC)

The Department of Media, Connectivity and Digital Policy (SMC) of the **Ministry of State** is responsible for the coordination and development of the national communication infrastructure (national and international connectivity, wired and wireless networks, and data centres) as well as digital policy. The Department is also responsible for:

- The governance and implementation of the national 5G Strategy;
- The governance and implementation of the Strategic Vision for AI;
- The governance and implementation of the Ultra-high Speed Broadband Strategy; and
- The governance and modernisation of the national communication infrastructure for public safety agencies.

Ministry of Economy

The **Ministry of Economy** is responsible for creating a business environment that fosters innovation in the IT sector by granting public aid to start-ups, implementing a seed funding and venture capital framework, and simplifying and improving the relationship between IT innovators and the public sector.

Via Luxinnovation, the national innovation agency under the supervision of the Ministry of Economy, Luxembourg is supporting digital transformation projects, especially those following the Data-Driven Strategy of Luxembourg, which focuses on the use of new IT technologies and collaborative creation of added value. This includes cloud, big data, HPC and AI.

The agency has updated its strategy to focus its efforts on two major axes: digital and sustainable development. Regarding the digital axis, the agency has set up a new Digital Transformation Department responsible for all digital transformation matters and encompassing the Digital Innovation Hub (DIH), the HPC Competence Centre (HPCCC) and the Gaia-X national hub. This department supports companies in their digital transformation according to their own degree of maturity and their own vision. From conceptual approach to project execution, the Digital Transformation Department supports companies in giving life to their project and work closely with the Research, Development and Innovation (R&D&I) Support Department, where experts translate these ideas and needs into R&D&I projects eligible for the various national and European aid programmes. In 2021, the DIH, focusing on the industry, interacted with over 100 companies with regard to their digital transformation.

Luxembourg also has a State aid scheme based on the General Block Exemption Regulation (GBER) which aims to incentivise companies to undertake innovation and research projects. These go from a simple digitalisation of internal processes, in particular for SMEs, to research projects aimed at developing new processes or products based on business and artificial intelligence. In addition, strategic public-private partnerships (PPPs) are organised to foster cooperation between national research organisations and companies (e.g. PPP Health Tech).

Ministry of Finance

The **Ministry of Finance** is responsible for supporting the development of innovative IT tools for the financial sector, such as electronic and/or mobile payment solutions, virtual currencies, and financial data analytics tools and services.

Ministry of Higher Education and Research

The **Ministry of Higher Education and Research** is in charge of promoting eSkills, IT training, and research and development (R&D) programmes in IT.

Ministry of the Civil Service

The **Ministry of the Civil Service** is responsible for promoting and assuring:

- An attractive and exemplary public service enabled by performance-oriented, dynamic and highly motivated public officials; and
- A quality public service based on a simple, innovative and effective regulatory framework, which favours social cohesion and the economic prosperity of Luxembourg.

National Commission for Data Protection

The **National Commission for Data Protection (CNPD)**, created in December 2002, is an independent agency whose task is to control the processing of personal data in Luxembourg and to ensure compliance with data protection regulations.

5.2 Subnational (federal, regional and local)

Association of Luxembourg's Cities and Communes

The **Association of Luxembourg's Cities and Municipalities (Syvicol)** is the political representative body of Luxembourg's municipalities. It is the government's interlocutor for issues of general municipal interest. Syvicol promotes cities' interests, and advises on legislative and regulatory projects that have an impact at the local level, including matters concerning future eGovernment strategies and laws at a local/municipal level.

Inter-Communal IT Management Association

The [Inter-Communal IT Management Association](#) (*Syndicat Intercommunal de Gestion Informatique*, SIGI) is a service provider set up by Luxembourg's municipalities to coordinate the development of common systems, and to promote the exchange and reuse of solutions and good practices. 101 out of the 102 local authorities in Luxembourg are members of the SIGI and benefit from its IT services related to citizenship (population records, births, deaths and marriages, electoral registers, tax cards, etc.), invoicing and administrative accounting.

The SIGI project management office's role is to take charge of the new demands of different actors and to formalise them in a portfolio of projects before proceeding with their planning and execution. The application of methodological standards, in a structured framework and with experienced staff, guarantees the implementation of quality solutions.

Support is a key element of the service offered by the SIGI, which includes incident management and change management. It is often the first point of contact of municipalities with the SIGI, either to solve a problem or simply to receive advice.

National Commission for Data Protection

The [National Commission for Data Protection \(CNPD\)](#) is an independent authority established by the Law on the Protection of Persons with Regard to the Processing of Personal Data of 2 August 2002.



6 Cross-border Digital Public Administration Services

6 Cross border Digital Public Administration Services

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

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

6.1 Life and Travel

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

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

6.2 Doing Business

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

- [Starting, running and closing 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);
- [Financing and Funding](#) (e.g. Accounting);
- [Dealing with Customers](#) (e.g. Data protection).

The Digital Public Administration Factsheets

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

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



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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