Co-funded by the European Union

Digequal

Sustainable Digital Adult Education Goals

E-government
skills and methodology for context-based
digital education
of adult educators & adults

Project result

Reviewed by APS Polygonal

Ecological Thinking!

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Let us protect our environment!

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1. Digital Divide in Europe

There is one tradeoff there, if I unplug the monitor to have some rest from the digital, then I must go out and queue. This is a problem! Participant from Italy

The spread of the Internet has revolutionised the concept of communication and facilities on the global stage. However, the internet is an online tool, and the digitalisation of communication and services also impacts several offline activities and life realms (Van Deursen & Helsper, 2015; McElroy, 2021). Indeed, the Internet and information technology have transformed many aspects of daily life, such as health, education, leisure and work (McElroy, 2021; Cortina-Pérez et al., 2014).

Being a social phenomenon, the concept of the digital divide implicitly includes also the concept of digital exclusion: "As the internet becomes more integrated into everyday life, people who do not use the internet are more likely to become more disenfranchised and disadvantaged" (McDonough, 2016).

1.1. Digital Literacy

In order to better understand the concept of the digital divide, it is helpful to analyse the concept of digital literacy. UNESCO (2018) defines digital literacy as:

> *"the ability to access, manage, understand, integrate, communicate, evaluate and create information safely and appropriately through digital technologies for employment, decent jobs and entrepreneurship. It includes competences that are variously referred to as computer literacy, ICT literacy, information literacy and media literacy".*

Given the definition, digital literacy has been included in the set of the eight key competencies which are necessary to enjoy life to the full in the twenty-first century: individuals can work more productively, buy items from the convenience of their homes, access any knowledge or information, interact instantaneously with people anywhere in the world, and so on. They can live better, longer, safer, and happier lives due to technology. Knowing how to use technology effectively is necessary in today's modern world; hence, it has become a prerequisite for engaging in socially active behaviour (Pawlicka et al., 2022).

According to the expertise in using digital tools (ITU, 2022), it is possible to detect 5 levels of autonomy in digital proficiency:

- Level 1. Advanced digital user: coding, software and app development, network administration, machine learning, big data analysis, cybersecurity, and blockchain technology;
- Level 2. Independent digital user: web search, e-mail, online banking, shopping, etc.)
- Level 3. Mid-level digital user: digital multimedia design, digital marketing and social media management
- Level 4. Basic digital user: teamwork, leadership, negotiation, customer relationship management;
- Level 5. Digital entrepreneur: online market research, web analytics, business analytics.

Five levels of autonomy in digital proficiency

1 Advanced digital user
- Coding
- software and app development
- network administration
- machine learning
- big data analysis
- cybersecurity
- blockchain technology

2 Independent digital user
- web search
- e-mail
- online banking
- shopping

3 Mid-level digital user
- digital multimedia design
- digital marketing and social media management

4 Basic digital user
- teamwork
- leadership
- negotiation
- customer relationship management

5 Digital entrepreneur
- online market research
- web analytics
- business analytics

Thus, digital proficiency requires specific skills that are not commonly widespread. Individuals with the poorest levels of digital literacy — who may already be facing some types of exclusion — have become the most susceptible group, and their security and privacy may now be jeopardised by various dangerous cyber actors (Pawlicka et al., 2022). The group that are the most vulnerable tend to be the older generations. They are the most disadvantaged due to low or lacking computer literacy, technophobia, lack of perceived usefulness and physical and cognitive deficits. This leads to inserting older adults at the lowest gradations of digital exclusion, especially in the two most digitised sectors, namely the workplace and health care services (McDonough, 2016).

1.1.1 The Digital Literacy of Educators

Educators are usually the providers of literacy. However, within the concept of Digital Literacy, the educational trend is not always linear: not all educators adapt to changes related to the appearance of technology and its application in the educational system. Suppose traditional teaching is based on a top-down process in which the teacher is the deliverer of knowledge in the information age. In that case, teachers – who are defined as digital immigrants due to their biological age – have less ability to use technology than students, who are considered technology natives (Labbas & El Shaban, 2013).

This generational gap creates fear in many teachers, who do not feel able to meet the challenges of digital change. Indeed, change in the digital age requires adaptability to a new system based on digital tools: given the emergence of digital literacies, the role of teachers is shifting from knowledge providers to knowledge facilitators (Labbas & El Shaban, 2013).

Teacher education plays a key role in eradicating the fear of digital literacy (or illiteracy), since teachers and educators are responsible for integrating digitization into their curriculum and teaching methodology. However, teachers and educators also need to be trained: in this regard, many educators feel inadequate and unequipped to meet the demand for digitisation (Cortina-Pérez et al., 2014).

Digital illiteracy is even more important in the context of adult education. Although people spend a significant amount of time using digital tools such as smartphones, tablets, and laptops, they are less informed of how to safely and efficiently utilise internet services. Adults often acquire these abilities via these platforms and exposure to good role models for online conduct. People may learn these abilities and develop the necessary underlying knowledge using direct instruction, mentoring, and supervised practice (Mann, 2022).

1.2.   Layers of Digital Divide

"I like to use online services here and there because it's just so convenient". Participant from Portugal

The digital divide has three main layers of analysis:

1. **The first level of the digital divide relates to the access to the Internet**: the initial strategy for addressing the digital divide was a crude analysis of the unequal access

to the Internet, seen as a binary separation between those who were connected to the Internet and those who weren't (Scheerder et al., 2017).

2. **The second level of the digital divide describes the disparities in digital skill**s: the skills gap indicates the differences between groups of people regarding the skills needed to use the Internet effectively. Merely having access to technology does not automatically provide all the benefits of the technology itself. In this regard, the vast majority of the population in Western countries has access to the Internet, but not all people have the same skills in using digital devices and tools (Scheerder et al., 2017). The second digital divide broadens the very concept of access, which is usually equated with physical access. In this regard, Van Dijk (2008) has differentiated four types of access: the first is motivational access; the second is material access, which includes physical access; the third is skills access, conceived as a set of "digital skills" required to work with digital technology; and the last type of access in usage.

3. **The third level of the digital divide concerns disparities in returns from Internet use**: it emphasises how using and accessing the Internet has a positive or negative impact on social and cultural benefits or disadvantages; third-level gaps refer thus to discrepancies in people's ability to transfer Internet access and use into positive offline outcomes, highlighting the connection between socioeconomic and digital disparities (Van Deursen & Helsper, 2015; Ragnedda, 2019).

Access to and proper use of digital tools and services is directly linked to access to information: the capacity to surf the internet and seek important information, handle social and professional situations online, pick material, be aware of the possibilities afforded by ICT, engage in self-advocacy, and enhance social and cultural capital are all examples of digital competencies (Ragnedda, 2019). Thus, access to the Internet defines one's capacity to obtain information and expertise that can be used both online and offline, putting those unable to do so at a disadvantage.

| First level of Digital Divide | Second level of Digital Divide | Third level of Digital Divide |
| Disparities in access to the Internet | Disparities in digital skills | Disparities in returns from Internet use |

The digital divide concept is a phenomenon based on complex social challenges involving the economic, political, cultural and social dimensions. As a result of this division, social classes which already experience social disadvantages become even more marginalised. The main social differences are gender, territory, socioeconomic status and age.

The age-based Digital Divide. Many middle-aged and older persons regard ICT adoption and usage as intimidating, with little or no added value. In contrast, conventional ways of communication, such as face-to-face engagement and reading paper copies of books and newspapers, are favoured (Fang, 2019). Such critics might demotivate a person and affect their interest and desire to learn and develop technological literacy (Fang, 2019). Notwithstanding age is one of the main elements of the digital divide, "innovative technology solutions play a pivotal role in enriching the quality-of-life, health, and independence of older persons" (Fang, 2019, e1), especially in the European context where there is a growing ageing population.

The gender-based Digital Divide. Besides the age-based digital divide, there is also a gender digital divide. For women who are older, less educated, poorer, or who live in rural or undeveloped nations, the gender digital divide is much more significant (OECD, 2018, in Perifanou, 2020). The gender digital divide is a concern not just in undeveloped countries but also in the EU: In the EU, 78% of women (compared to 80% of men) regularly use the Internet, while 31% of women (compared to 36% of men) possess "above basic digital abilities" (more precisely, 71% for information skills, 67% for communication skills, 56% for problem-solving skills, and 39% for software skills) (Gender Equality Index, 2020).

The territory-based Digital Divide. Access to digital instruments has a territorial dimension that determines a territorial gap not only between countries but also within them, between urban and rural areas. At first glance, the territorial-based digital divide is represented by the technology gap between the countries of the so-called global South and the global North. And while economically developed states have public policies that pay attention to digitisation in terms of education and access, economically less developed states have other priorities and lack sufficient resources to invest in technology (Caradaică, 2020). Regarding the territorial-based divide, rural communities demand more and better digital connectivity regarding the territorial divide to compensate for their remoteness. However, the reality is that these communities are generally less and less connected by technologies, and therefore their citizens and businesses are less digitally integrated (Esteban-Navarro et al., 2020, p. 3). Moreover, since people that live in rural areas tend to be older on average, the geographical split is inextricably linked to the age divide. Governments must address this issue to fix imbalances, promote proactive behaviour, and stop the brain drain of skilled individuals who move to urban regions, frequently outside the country (Esteban-Navarro et al., 2020).

The social-based Digital Divide. There is a social-based divide among whom has access to technology. At the societal level, barriers to ICT use may be associated with personal beliefs, self-efficacy issues, and economic factors, which prevent many individuals from buying computers, laptops, mobile phones, or even Internet subscriptions (Fang, 2019).

This study aims to analyse the second and third levels of the digital divide – with regard to adult education – and to understand which contexts influence adults and adult educators in Europe in adopting e-government services. To do so, we have engaged more than 120 adults and 60 adult educators from Italy, Cyprus, Greece, Germany, Spain and Portugal.

1.3.   Impact of Covid-19 on digitalisation

The outbreak of the Covid-19 pandemic in 2020 marked a watershed moment in digitalisation. The requirement for social distancing measures promoted the establishment of e-government, social hyper-connectivity, teleworking, and e-commerce (Esteban-Navarro et al., 2020). Many severe measures, such as lockdowns and compulsory social separation, have been implemented to prevent the virus from spreading. This forced corporations, schools, and many other organisations to begin working online while leveraging the internet and electronic technologies (Pawlicka et al., 2022).

The Covid-19 pandemic increased social isolation among older adults (Nash, n.d.): the pandemic accelerated the trend of digital services, increasing the spread of telehealth, food and grocery delivery and online engagement opportunities.

Consequently, ICT interaction has become necessary for citizens to obtain basic services like healthcare and education (Esteban-Navarro et al., 2020) and civic participation at local and national levels (Ellena, 2021). However, these services require a level of digitisation that makes them accessible only to those who already have online access, making them complicated and sometimes inaccessible to individuals unfamiliar with new technologies (Nash, n.d.). This digital transition increases the digital divide, benefiting the wealthiest, the most educated and the most ethnically dominant (Ellena, 2021).

The vital necessity of digital tools, especially in the healthcare and education sectors, increased the digital divide and, consequently, the social exclusion of the most vulnerable part of society in terms of political, social and economic participation (Esteban-Navarro et al., 2020). The need for social distancing imposed due to the Covid-19 pandemic has led to the development of emergency distance learning; however, this digital school approach has exacerbated existing digital gaps and highlighted the lack of adequate digital training for educators and students (Portillo et al., 2020). In this regard, the European Commission (n.d.) established the European Digital Competence Framework for Educators (DigCompEdu), which determines the digital literacy guidelines for all formal and nonformal

education levels. The need for telematics education has necessitated the implementation of the standards outlined by DigCompEdu, bringing to light the gaps that exist among teachers and the need to develop some key aspects of the framework, starting with standard digital communication skills, such as being able to use chat platforms, browsing forums, using video conferencing tools and e-mail clients (Portillo et al., 2020).

The pandemic has also forced governments and local administrations to change their digitalisation strategy; the need to replace traditional tools involving physical contact with digital tools has brought with it the need to reach and involve that part of the population usually excluded or marginalised from digital services: one of the solutions adopted was the combined use of traditional communication tools, such as telephone calls, and more advanced digital tools, such as online platforms (Ellena, 2021).

1.4. EU Strategy

Internet access is a critical condition of global Internet politics. Notwithstanding there are gaps between the EU Member States and the gaps between population groups within the EU, the EU proposes several strategies to pursue e-Inclusion:

Europe's Digital Decade. By 2030, Europe will have undergone a digital revolution, according to the European Commission's vision and prospects. To guide the EU through its digital decade, the Commission has proposed a digital compass that revolves around the four cardinal points of economy, infrastructure, governance, and ICT-related skills.

Skills
ICT Specialists: 20 million + gender convergence
Basic Digital Skills: min 80% of population

Secure and sustainable digital infrastructures
Connectivity: Gigabit for everyone, 5G everywhere
Cutting edge Semiconductors: double EU share in global production
Data - Edge & Cloud: 10,000 climate-neutral highly secure edge nodes
Computing: first computer with quantum acceleration

Digital transformation of businesses
Tech up-take: 75% of EU companies using Cloud/AI/Big Data
Innovators: grow scale-ups & finance to double EU Unicorns
Late adopters: more than 90% of SMEs reach at least a basic level of digital intensity

Digitalisation of public services
Key Public Services: 100% online
e-Health: 100% of citizens having access to medical records
Digital Identity: 80% of citizens using digital ID

EU Digital Single Market. Creating a Europe that is fit for the digital age is one of the six political objectives of the European Commission, intending to empower people to use technology at a time when the internet and digital technologies are revolutionising our world. The three pillars that support the EU's Digital Single Market Strategy are:

1. Access: better access for consumers and businesses to digital goods and services across Europe;

2. Environment: creating the right conditions and a level playing field for digital networks and innovative services to flourish;

3. Economy & Society: maximising the growth potential of the digital economy.

Digital Education Action Plan (2021-2027). The EU has renewed its political commitment to digitisation through the Digital Education Action Plan (2021-2027). The strategy intends to assist the member states in transforming their educational and training systems to the digital era by defining a shared vision of high-quality, inclusive, and accessible digital education throughout Europe.

To meet the challenges and difficulties of the Covid-19 pandemic and provide possibilities for the education and training community – both teachers and students, policymakers, scholars, and researchers at national, European, and worldwide levels, the Action Plan calls for more European collaboration on digital education.

The two main priorities of the action plan are:

1. Fostering the development of a high-performing digital education ecosystem
2. Enhancing digital skills and competencies for the digital transformation

E-government Action Plan 2016-2020. The plan aimed to modernise digital public administration by developing an e-justice portal to interconnect all business and bankruptcy registers, developing a cross-border e-health service and accelerating the transition to e-procurement. The priorities of the e-government Action Plan are:

- modernise public administrations using key digital tools;
- enable mobility of citizens and businesses through cross-border interoperability;
- facilitate digital interaction between public administrations and citizens or businesses for high-quality public services.
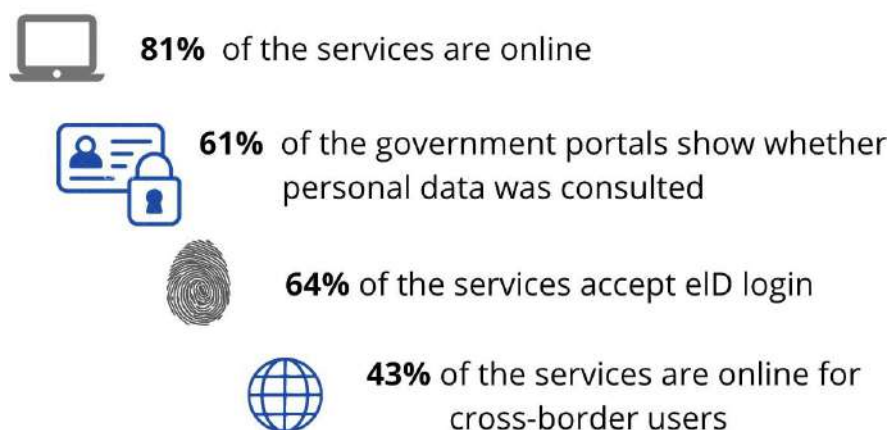
2. E-government

"I prefer not to use it because I don't know where the information goes and who receives it". Participant from Spain

E-government is a significant modernisation movement that uses information and communication technology (ICT) to improve accessibility, efficiency, and accountability in public administration (Ardielli & Halásková, 2015). Since the Covid-19 pandemic, social distance and self-isolation have dominated everyday life, social and economic advancement, and the efficient functioning of government administration; this condition implicitly necessitated the improvement of the quality of e-government, which must be made available to all citizens (Hodzic, 2021). In this regard, although the COVID-19 epidemic has caused turmoil, it has also sparked creativity and resilience, accelerating the digitalisation of the EU economy and society, including the provision of public services (European Commission, 2021).

eGovernment Benchmark 2021
Key Figures for the EU27+ Countries

81% of the services are online

61% of the government portals show whether personal data was consulted

64% of the services accept eID login

43% of the services are online for cross-border users

2.1   Citizens and the digital divide

The introduction of digital technologies into government and other services has significantly transformed how adults in Europe interact with public administrations and how they take advantage of new possibilities of paying, consuming entertainment products

or reaching others. E-government can be defined as the delivery of government information and services to any person via Internet usage and other digital means, and in this way, improving the way citizens can access information and services or participate to a more considerable extent in society.

Despite the significant public investment devoted to enhancing e-government over the last ten years in EU countries, there has only been an increase of 15% in citizens' use of this service, posing a challenge to national governments. In other words, just a minority of people use e-services, and e-government access differs among various social groups — the citizen and the digital citizen's capabilities matter. Most recent research shows that the typical e-government user still tends to be highly educated, young, urban and male (Rodriguez-Hevia et al., 2019; Morotea et al., 2020).

As 88% of adults (25+) go online, not even half of the group reports using the Internet to interact with public authorities or online services (EC, 2020). So, it is no more about having or not having access to the Internet or having access to technology (at least in the European Union). It is about the different levels of skills, trust, capabilities, and strategies that citizens feature when they use the Internet.

In other words, we are discussing the term digital divide. However, it is no more a term indicating the substantial gap in access of the population to digital technology, but about the strategies implemented by the citizens. Effective usage of online services, Internet technologies and public services can provide a wide variety of benefits for EU citizens, notably money savings, better personal planning, increased participation in decision-making, skipping lines and many more.

What can we do to improve our relations with e-government and e-services? How can we enhance adults' trust in Internet-based services? That is what we want to find out with the project Dig-Equal!

2.1.1 Categories of e-government

According to the desk research that we have developed (find the annexes and the different platforms), most public administrations have developed several online solutions that we have decided to group into the following categories:

e-education also known as e-learning involves the use of technology and digital tools to teach and learn. The application of technology to teaching enables new ways of teaching that make it interactive and very flexible in terms of space and time.

e-billing/e-payment.Withe-billing, bills are sent electronically and consumer payments are handled online without the use of paper. Instead, e-payments are any financial transactions made using computers, cellphones, or tablets. They can be made using digital wallets, credit and debit cards, bank transfers, direct debits to mobile apps, or QR code-based payments. They are quick, secure, and practical when compared to traditional forms of payment.

e-leisure. The concept of e-leisure includes all platforms that allow online booking of leisure activities, such as airline tickets, stays, recreational activities and so on

e-health. The delivery of health services and information via the Internet and other similar technologies is referred to as "e-health," a developing topic at the nexus of medical informatics and public health

e-participation. Using ICTs to promote open, participatory governance and civic engagement is known as e-participation. In order to empower individual individuals and advance society as a whole, it seeks to increase access to information and public services while also fostering participation in policymaking. This will result in a better partnership between governments and citizens.

e-services/e-government literacy. It refers to the level of proficiency of users in accessing and using e-government platforms.

3. Adult education & context-based education

E-government? Lots of patience and learning! Participant from Italy

Many European citizens face various challenges when participating in society. These challenges can be related to age, gender, individual capacity, or where you live. Participation in society and the full exertion of rights is a wide topic and covers diverse issues, such as decision-making, lifelong learning, access to public services, data and the active shape of one's digital identity. Such elements are what define a 'context'. The Oxford Dictionary defines context as "the circumstances that form the setting for an event, statement, or idea, and in terms of which it can be fully understood and assessed." The Merriam-Webster Dictionary defines context as "the parts of a discourse that surround a word or passage and can throw light on its meaning; Context now most commonly refers to the environment or setting in which something (whether words or events) exists." **Context is the background around us, and it is what education should be aware of, to untap potential and to overcome barriers.**

Thus**,** education is not only synonymous with extended knowledge and skills, but also implies the further development of the individual in a given environment. In this sense, education is not a mere broadening of knowledge, but a challenging process that can change existing individual and cultural structures. For this reason, adult education must take into account the contexts, difficulties, and barriers adults face and embed them in their teaching practice.

A context-based approach means to encourage teachers to have the confidence to creatively reflect on their teaching practice as it responds to the particularities of their teaching contexts. A context-based education is a "teacher generated theory of practice" (Kumaradivelu, 2001). In this way, when we refer to digital education aimed at adults, it means that technologies cannot be taught in abstract terms but through practice.

Adult educators must understand that learning can take place in many settings and design programmes incorporating tools, context, and social interactions with others. In this sense, the teaching of e-government is not just about learning the technical steps leading a person to be confident in its meaning, technical features, and accessibility issues. It is also about the community of practice that one develops around it, the interactions, mutual knowledge, and the livelihood that adults can acquire.

For the above, a context-based approach in adult digital education means to reason upon real-world situations in a context-based framework, where adults are not only seen as 'receivers' of notions, strategies and facts. Instead, **adult learners are active doers and active participants in the local society and the wider community**. Therefore,

understanding the contexts and the faced barriers, we can make digital education a meaningful tool of emancipation, concretely working on the services and utilities needed by adult learners. In this sense, contexts are used as a starting point when teaching. This approach will be part of the second project result of DigEqual, as we will develop a course grounded on the needs and increasing awareness among adults and adult educators that knowledge about e-government is becoming more important than ever.

4. General trend detected by desk and field research

It makes everyday life easier, as there is no need to visit the services at their physical facilities.
Participant from Greece

4.1 EU overview

The Digital Economy and Society Index (DESI) analyses the digital growth in the EU Member States. The 2022 measurement describes how during the Covid-19 pandemic Member States advanced in their digitisation efforts but continue to struggle to bridge the digital skills gap (European Commission, 2022a). Notwithstanding that **most EU Member States offer many essential governmental services online, not all European citizens are able to use these digital tools.**

From the evidence collected during the field research conducted by the DigEqual project, it can be argued that, **although some of the respondents consider the use of e-government tools to be faster, simpler and more practical compared to the traditional system, the majority consider it too complicated to use**. The extent ofdifficulty is mainly related to a lack of digital literacy, as well as to lower education degrees. In this sense, adults with lower education face higher barriers than others with higher degrees.

Many people feel inadequate in using digital services or even more so in the general use of technological tools. In this respect, e-government services are considered too complicated to use.

In general, e-government tools are considered helpful in everyday life procedures such as paying bills, an action that usually takes a long time because of queues at post offices. Therefore there is a favourable approach to digitisation. Nevertheless, the unsuitability of these tools for all generational groups is underlined: it appears that digital immigrants – people aged 45+ – are excluded from this system of benefits due to a low ability to exploit the potential of digital tools. In this sense, no tools are put in place to bridge this generation gap, which leads to fear and a sense of inadequacy in using digital tools independently.

The survey of European citizens and educators shows that there is a gap between the respondents. About half of them efficiently use online services in their daily lives, while the remaining half do not use them due to a lack of competence in using digital services or because they consider them worse than face-to-face services.

Regarding access to e-government services, almost half of the respondents know how to access different online services. The percentage is higher in the case of EU educators: for instance, 69% of respondents know how to navigate the different e-government platforms compared to 38% of EU citizens, and 69% know how to check taxes online compared to 57 % of EU citizens.

Regarding e-education, 19% of EU citizens consider online platforms lacking suitable materials, and about 35% consider materials to be challenging to access. These percentages decrease in the case of educators who frequently use online educational platforms (53%). Entertainment and user-friendly tools are most appreciated. The use of e-payment tools is quite spread by both citizens (48%) and educators (60%), as is the use of online booking portals and e-health services: for instance, 75% of educators and 72% of citizens book online medical appointments. However, most problems are encountered among the low-skilled adults interviewed (the ones with primary education only), where supporting systems such as family and community come across.

The area of e-government that is least used is e-participation. Participation in political life for older generations is linked to the concepts of public square, contact and exchange. Therefore, it is probably more complicated to understand the dynamics of online activism and participation. Indeed, only 29% of citizens and 23% of educators believe that voting online is easy. Such an element puts an exciting basis for further research and exploration.

e-payment

52% of EU citizens find the online system of our local/regional government difficult to pay taxes

39% of EU citizens do not normally pay taxes or fines through the online platforms provided by the government

e-participation

57% of EU citizens do not know that they can contribute with their ideas to government actions

57% of EU citizens do not find simple to vote online for referendums/national elections

4.1 Cyprus

The Digital or e-government Strategy of the Republic of Cyprus was approved by the Council of Ministers on 8 February 2012 and has been applied to all ministries, departments and services of the Cyprus Government (European Commission, European Union, 2018, 9 -11). Since then, the Digital Strategy has been restructured for 2020-2025, the objectives were reviewed, and approaches were changed. The plan aimsfor a holistic approach to developing the information society in Cyprus by focusing on technical, operational and organisational aspects of providing e-services to citizens and businesses (European Commission, 2019).

Cyprus still lacks a comprehensive digital strategy due to the low percentage of e-government services it offers to citizens and the low demand of citizens for e-government services (Eurostat, 2020). According to data, 67.8% of adults show lack of skills and lack of awareness regarding the usefulness of the Internet. The same goes for Cypriot companies and businesses. Data indicated a low access rate since e-commerce and e-transactions in Cyprus had not been developed as much as in other countries - 17% is the current rate of penetration. (Eurostat, 2021).

From time to time, efforts and actions are taken regarding e-government. However, as evidenced by the various studies of the European Commission, Cyprus has so far failed to achieve a comprehensive digital strategy because it has not exploited information and communication technologies to such an extent as to reap significant benefits for the economy and society. Nevertheless, it has implemented various actions related to such technologies. It has invested in improving its infrastructure to support the digital transformation enabling it to tap into the potential of frontier and emerging technologies. Some of those important tools are the following:

- Enterprise Resource Planning System (ERP);
- Department of Lands and Surveys (DLS) Portal;
- Cyprus Government Open Data Portal;
- Ipodamos - Town Planning and Housing Department's Integrated Information System; Cyprus Government Portal;
- Point of Single Contact (PSC) Cyprus;
- Government Secure Gateway (Ariadni);
- Platform for the Digitalisation of all grant schemes;
- National Web Portal for Open Data;
- eInvoice in Cyprus;

● Electronic Exchange of Social Insurance Information (EESSI)

4.1.1 Results of the field research

From the survey conducted in Cyprus for the Dig-Equal project, in which 21 adults over 40 years old and 10 adult educators took part, the following emerged:

The results of the **questionnaire concerning adults over 40 years old** indicate that the majority of Cypriot citizens find the process of e-government complicated as they find the government websites difficult to use, without accessible information and no guidelines for specific actions, while the remaining percentage does not face any serious problem in using them. Several participants reported using the services frequently for online payments or updates. In contrast, the remaining percentage reported that they do not use the services because they prefer to go to the organisation in person or do not know how to do so, due to the lack of support and guidelines. Most respondents agreed that e-government makes life easier for citizens due to saving time and avoiding hassle.

The results of the **questionnaire concerning adult educators** indicate that the majority of adult educators know how to use e-government services. However, access to digital material and the process is quite difficult, they stated. Although they are familiar with the use of e-government services, online platforms and websites, the most challenging topics and aspects of everyday life they face are the participation in decision-making, obtaining basic information from e-government services, paying bills and taxes digitally, due to the fact that there is not enough support and not enough guidelines in using these platforms.

In addition, most adult educators stated that they are aware of different aspects of digital services available to citizens and that they sometimes discuss topics related to e-government services in their classroom, according to the group's needs.

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4.2 Germany

To facilitate electronic communication with the administration, the Act on the Promotion of Electronic Administration (E-Government Act) came into force in August 2013. It enables the federal, state and local governments to offer simpler, more user-friendly and more efficient electronic administrative services.

The Online Access Act was enacted on 14 August 2017. It obliges the Federal Government, the federal states and the municipalities to also offer their administrative services electronically via administrative portals by the end of 2022 and to link these with each other to form a portal network.

The development and implementation of e-government services in Germany is progressing only slowly and lags far behind developments in the economy and private life. The use of digital administrative services in Germany remains at a medium level: 52 per cent of online users used such services within the last twelve months.

The satisfaction of citizens in Germany with the currently available online services of their city or municipality has dropped to 47% this year (year of survey = 2021). Large infrastructure projects of the administration, such as the public authority number 115 and the online ID card, do not reach the citizens. In fact, 35% of respondents in Germany with a valid ID card have activated the eID - but only 9%have used it so far.

Germany performs well and above the EU average in digital public services for businesses (with a score of 88 out of 100) according to the 2021 DESI report. However, many citizens are open to well-functioning digital interaction with public authorities and new technologies such as the identity card on the smartphone or the electronic patient file.

To summarise, even though digitalisation gained momentum during the pandemic, the Covid19-pandemic forced the state to improvise and introduce new digital solutions practically overnight; the digitisation process in Germany is taking its time. Germany is way behind other European countries of similar economic power. The reasons are plentiful, such as problems with the infrastructure, slow implementation of e-governance and the fear of new technologies among the German public. While it is essential to highlight the deficits, it is worth stating that the critical mass needed to accelerate change has been exceeded, and the current government set digitalisation as one of the main challenges the country needs to tackle.

4.2.1 Results of the field research

We asked 20 adults aged 40-65 and 10 adult educators questions about e-government and digitalisation. They were asked about topics such as the comprehensibility of government websites, availability and accessibility of e-tax services, online training, e-payment, e-health, e-participation and the challenges of e-government.

The citizens surveyed were in the age range of 40-65 years. About 60% have vocational and educational training, and about 40% have a university degree. Respondents had the least problems using online payment providers and making medical appointments via the internet. More than 50% said they use these services, although they were not necessarily well informed about the risks of using online payment providers.

The majority of government services are not available digitally. There is no online portal to own pensions, no local or regional e-payment systems, no medical results are made available online, and there are hardly any opportunities for digital participation. For the moments where there is an interaction between citizens and the state, the portals are criticised for being confusing because they contain too much information, use too complicated language and are unclear.

The survey of teachers, who all have a university degree, revealed that the vast majority also have no problems dealing with various online payment providers and can submit their tax assessments online. In general, this group has fewer problems in dealing with digital services. Nevertheless, they complain that the vast majority of government services are not available digitally or online and that e-government , at best, ends in a fillable PDF document that must then be printed out. The topic of e-government has not yet been explicitly addressed by any of the respondents in class. Only a few subtopics, such as the use of online payment providers, were discussed by some teachers on their responsibility. This is due, on the one hand, to the low prevalence of e-government services in Germany and, on the other hand, to the fact that the respondents are not very familiar with the topic.

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In Spain, there is an e-government portal managed by the Government of Spain. Its objective is to develop technological implementation plans in the most influential areas of society. We have specific measures to digitise: the health system, the justice system, public employment services, inclusion, social security and migration, consular services, and pilot initiatives for security and agriculture.

The digital administration aims to disseminate shared services and other common services, infrastructures and other technological solutions that the SGAD, the General Secretariat of Digital Administration, makes available to all public administrations to help drive the development of digital administration and improve the services offered to citizens and businesses, or internally to public employees. SGAD is responsible for promoting and coordinating the State Administration to realise the approach contained in the Digital Transformation Plan of the State Administration according to laws n 39/2015 and 40/2015.

Some specific services are related to digital identity and electronic signatures, attention to citizens and businesses, electronic files, documents and archives:

- "Cl@ve": digital identification of citizens in public administrations
- "Cl@ve-signature": a common platform for cryptographic signature using centralised certificates
- PAG - General Access Point: citizens' digital gateway to electronic administrations. FACE: centralised entry point for electronic invoices by suppliers.
- InSide is a system for the management of electronic documents and records.
- Archive: final archiving of files and electronic documents.

These are some of the most relevant applications. However, a catalogue has been created with more than one hundred pages that compile all the services and tools offered by e-government for citizens and companies. According to the most recent data, in 2020, 68.7% of citizens aged 16-74 used government electronic services. The 25-34 age group used it the most, specifically more men than women. As for companies, we have data from 2019: 93.5% of them interacted with the electronic services offered.

We conducted a study to investigate how e-government and online services are used in by involving 21 adult citizens (40+) and 11 adult educators in our survey. Here is a brief summary of the results

Citizens

General profile of respondents: slight preponderance of women (52%), most have high (38%) or VET (24%) educational attainment. Based on the responses, we interpret that there are various experiences with the different e-government online platforms. Citizens have become almost polarised in their knowledge of navigating these platforms. The areas in which they use online platforms most frequently are: e-health and e-booking, predominantly by women.

The less-used areas are: e-payment and e-training. However, most respondents are familiar with managing their taxes and dealing with their pensions online. Most citizens know little about the possibilities of e-participation. In general, citizens have expressed dissatisfaction with e-government services primarily because of a lack of knowledge about their offerings and capabilities and the complexity of these portals.

Adult educators

As for the general profile, women with university and master's degrees strongly predominate. Adult educators have been shown to use e-government more than citizens in general. Like most of the population, they make the most use of e-health and e-booking. They do not find e-training as useful and make almost no use of e-participation, although they know of its existence.

In general, they are aware of the online services and offerings of the public administration. However, they express dissatisfaction with the complexity of the e-government portals. Most respondents recognise that their learners have difficulties with e-government, but they do not address these issues in class.

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4.4 Greece

E-government services in Greece have been in function for a few years already, and a steadier amount of citizens have adopted them. Still, there is a long way to go if we want to brag that all government services have gone digital and delivered without serious issues. Greece focuses on setting up e-government services as the main way of interaction between the public authorities and the citizens/businesses, without excluding at the same time citizens that suffer from the effects of the digital divide.

Percentage of Use (adults & businesses):

Gov.gr currently hosts all the available e-government services. 2 years after its opening to the public, it counts:

'   265.762.156 page views
'   7.936.034 unique citizens have used it at least once
'   159.346.146 documents have been issued
'   More than 1.370 digital services currently

Main infrastructure:

The main infrastructure of e-government in Greece follows the EU regulations, and it is separated into three fields:

1.   'Government to Citizen', which describes all the aspects of the digital relationship between citizens and their government and the respective e-services the citizens can take advantage of. It focuses on making access to information and services easier for users, offering services for paying taxes, personal documentation applications, downloading and uploading documents and paperwork, and more.

2.   'Government to Business', which consists of all the e-services offered by public authorities that focus on businesses and their needs. It includes paying taxes and the renewal of licences, among others; procedures that, when done online, allow for better time and money management for the business and the creation of government–business collaboration opportunities.

3.   'Government to Government'. It describes the digital exchange of data, information and services between government authorities and government services of different countries.

Strong points in the Digitalization of online services and e-government:

The main strong points of e-government services:

1.   Wide access to data, services, and information

2. Resources saving (time, money, space)
3. Speed of process completion
4. Accessibility: users with special needs, or users who live far from the respective public authority, can now access government services from the comfort of their own space.
5. Digital backup, safety, and privacy.

Major Reforms:

The development and operation of gov.gr constitutes the most important reform in e-Government, as far as Greece is concerned. It began in 2020, providing 503 services, and as of today, it hosts all the available e-Government services, 1.398 in total. The webpage now counts more than 291.000.000 visits.

4.4.1 Results of the field research

The following results were extracted from the field research carried out in Greece within the DigEqual project regarding how citizens and adult educators perceive e-government services, and the barriers they currently face - 20 citizens and 10 educators have participated in total.

Citizens

Through the participating sample of adults, it is understood that citizens are yet to embrace e-services completely; but they are moving fast in that direction. 85% of participants are familiar with paying bills and taxes online, while at the same time, 80% of them can send digital documents for official purposes. A satisfying 85% use online platforms to pay for ticket booking, and 70% of the participants are competent when retrieving basic information regarding e-government services. 74% of the participants noted that they can look up educational platforms and schemes. However, only 35% of them are familiar with online notations or the processes of following the decisions of the local/regional government. Even though it seems that citizens are embracing e-services and their advantages in their lives, there is still a long way to go to become second nature.

Educators

The research offers us some valuable insight into the matter. Educators are familiar with e-services and their functions, yet a few barriers have emerged. In more detail, 30% of the participants state that they face difficulties paying bills and taxes online, 20% have trouble managing digital documents for official acts, and 30% feel uncomfortable with booking tickets and making reservations online. When retrieving basic information on

e-government services, an impressive 60% of the participants face difficulties, while 50% can not find online resources on educational matters. Last on the list, 40% of the participating educators state that they are not familiar with online notations or the processes of following the decisions of the local/regional government.

The field research has shown that even though citizens and educators have begun to embrace e-government services, they do not fully trust or understand all the levels and aspects of them, yet. From everyday leisure to e-government services, there is an abundance of tools to be discovered and applied in various situations.

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4.5 Italy

The OECD's Digital Government Index (DGI) assesses the comprehensiveness of digital government strategies and initiatives in OECD countries. According to the 2019 DGI, Italy was slightly above the average of OECD countries in terms of e-government implementation, showing a big improvement compared to previous years.

The progress of digitisation is evidenced by the numbers related to internet usage by the population aged 55-74. In Italy, there is a strong generational gap. In 2021 only 66.2% of people aged 55 - 74 had access to the internet, which is well below the European (75.9%) and the OECD average (73.6%). The gap is even bigger if we take gender into account - 62.7% of the women in this cohort have access to the internet, compared to 70% of men. However, the gap is even wider when we consider education - only 49.6% of the people with little or no education have internet access. In contrast, the number increases to 81.5% for those with secondary education and 89.5% for those with higher education.

The Covid-19 pandemic has boosted the digitisation of public administration in Italy. By analysing Eurostat data (European Commission, 2021) on the percentage of individuals who use the internet to interact, obtain information, download official forms, and send completed forms to public authorities in Italy, it is possible to detect a significant improvement between 2019-2021, with an increase in digitisation of about 10%. For example, individuals using the internet to interact with public authorities was 19% in 2012, but it rose to 23% in 2019 and 34% in 2021, which is a jump of 11 percentage points in just 2 years. However, the figures remain below the European average of 58%.

4.5.1 Results of the field research

The following results were obtained from a study done in Italy for the Dig-Equal project, in which 21 persons over 45 years old and 12 adult educators participated:

The results of the survey of Italian adults (40+) are in line with the major problems of digital divide in the European Union. Regarding access to e-government services, over half of the respondents considered themselves capable of using e-government platforms to check taxes and pension plans online. The most common practice is paying online. 67% of the respondents are familiar with online payment systems, describing them as easy to use (62%) and accessible without assistance (52%). Regarding e-health, most of the respondents find it easy to book appointments online (72%) and check results online (67%). However, respondents expressed reluctance about online training. While 52% use online platforms for training, 48% believe they lack quality content. Regarding e-participation, 57% believe it is difficult to vote online for referendums/national votes,

and 57% are unfamiliar with the concepts of structured dialogue (all those participatory strategies to connect citizens, stakeholders and public authorities and online forums. Among the most complicated everyday situations, respondents mentioned retrieving basic information on e-government services (20%), searching for valuable online resources to learn new things (22%) and searching online for local/regional government decisions (20%).

According to the results of the questionnaire, Italian adult educators (40+) are familiar with access to government services (58%). 67% of them have digital tools such as digital signatures. Unlike citizens, educators are more inclined to use e-education tools: 67% consider it reasonable, and 42% use online platforms for training. 75% are familiar with online booking services and payment methods, including paying taxes (58%) and booking medical appointments online (58%). Although educators are more familiar with digital products, e-participation remains the least used aspect of e-government services: only 8% find voting online easy, and 75% are unaware or unfamiliar with online dialogue tools (75%). In this regard, sending digital documents for official acts (42%) and finding good online resources to learn new things (42%) are considered the most complicated activities to accomplish.

The sample that responded to the questionnaire is representative. However, their answerers are not absolute: according to the experiences of the respondents themselves, there are basic activities that are still difficult to use, such as accessing portals via digital identity, sending e-mails to the public administration, booking a visit from different specialists and adapting to easy and correctly used digital tools.

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4.6 Portugal

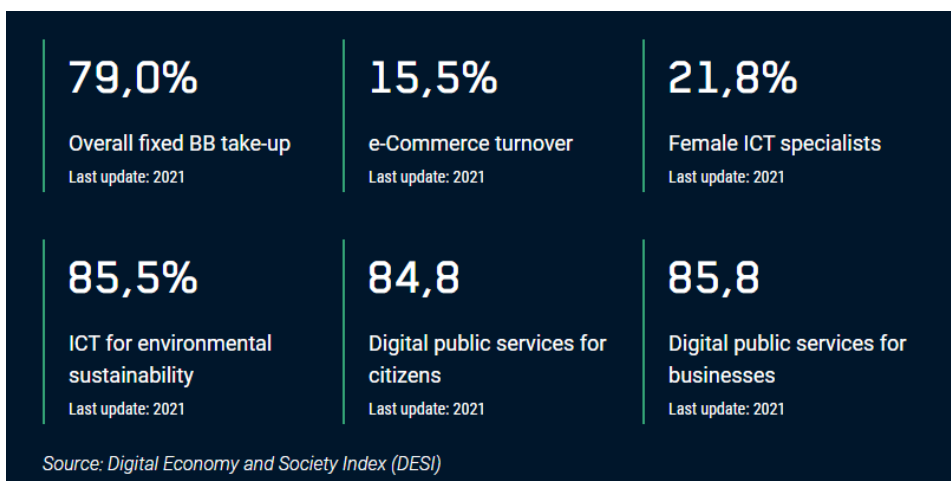**1 - main data, percentage of usage, both from the side of users (adults) and from the business side**

a) general data about internet access in Portugal

Fibre optics was the main form of access to fixed broadband Internet, reaching 61% of total accesses. At the end of the first quarter of 2022, mobile penetration reached 181.6 per 100 inhabitants. If only mobile accesses actually used (excluding M2M2) are considered, the penetration rate in Portugal would be 127.4. In addition, if accesses exclusively allocated to data services and Internet access (cards associated with PC/tablet/pen/router) are also excluded, mobile service penetration would be 121 per 100 inhabitants (ANACOM, 2022).

b) digital adoption in Portugal

Portugal currently ranks 16th and performs above the EU27 average in the indicators below, (Government, 2022).

Portugal performs above the EU27 average in terms of high-speed broadband adoption, e-commerce in small and medium-sized companies and women specialists in information technology:

79,0%	**15,5%**	**21,8%**
Overall fixed BB take-up	e-Commerce turnover	Female ICT specialists
Last update: 2021	Last update: 2021	Last update: 2021
85,5%	**84,8**	**85,8**
ICT for environmental sustainability	Digital public services for citizens	Digital public services for businesses
Last update: 2021	Last update: 2021	Last update: 2021

Source: Digital Economy and Society Index (DESI)

Portugal has evolved significantly in several areas, such as number of information technologies specialists, online sales by small and medium-sized companies and the use of digital public services:

4% — Employed ICT specialists — Last update: 2020
34% — Cloud computing services — Last update: 2020
45% — Individuals who used the internet for interaction with public authorities — Last update: 2020
67% — Individuals' level of digital skills — Last update: 2019
82% — Households with broadband access — Last update: 2020
2% — Distribution of graduates at education level and programme orientation by sex and field of education — Last update: 2019

Source: Serviço de Estatística da União Europeia (Eurostat)

With the implementation of the Action Plan for the Digital Transition, results that will impact people, companies and the State have already been achieved:

9.191 — Number of applicants for UPskill, digital skills reskiling program — Last update: 2022
4,5 — Average number of students per computer with internet connection — Last update: 2022
17 — Number of DIH created to promote the digital transition of SMEs and Public Administration — Last update: 2022
4.923 — Number of jobs to be created by the applications approved on +Co3so Digital — Last update: 2022
41% — % of AP bodies that purchased cloud computing services — Last update: 2022
10.922.399 — Number of authentications with the Digital Mobile Key — Last update: 2022

Source: AMA, APDC, DGEEC, EMPD, Eurostat e PVI

The varied technology plays an important role in companies, however it is below the EU average and its presence is also less active than when compared to other EU countries.

In 2019, the Government launched several initiatives to promote the digitalization of businesses to increase the levels of digital literacy, expand cyber-infrastructure and establish cooperation agreements with other EU countries to explore how to develop and deploy advanced infrastructure (Administration, 2022).

a) Digital Government Infrastructure, (Commission, 2019)

- Portals
- Networks
- eID and Trust Services
- eProcurement
- eInvoicing Electronic
- Knowledge Management
- Cross-border platforms
- Base registries
-

b) Strong points in digitalisation of online services and e-government

Portugal signed the Digital 9 (D9) charter in November 2018, thus integrating into the network of advanced digital nations.

- Digital Government Legislation

Law no. 46/2018 was adopted, which established the legal regime for the security of cyberspace, transposing Directive 2016/1148 of the European Parliament and of the Council of 6 July 2016 on measures to ensure a common level of network and information security throughout the Union.

- Digital Government Governance

Modernisation is responsible for the modernisation of public administration and digital government.

- Digital Government Infrastructure

The ePortugal portal, launched in February 2019, replaced the Citizen Portal as the main channel for accessing digital services offered by the public administration. It is the central repository for all services dedicated to citizens and companies and a directory of addresses, websites and mobile applications of the Public Administration.

4.6.1 Results of the field research

Adults

The study conducted in Portugal within the Dig-Equal project counts the answers of 24 adults over 45 years old. Of the 24 respondents, 16 are women and 8 are men. Regarding academic qualifications, 50% of the respondents hold a master's degree or a PhD. 33% have a bachelor's degree, 13% have a high school diploma and 4% have a middle school diploma. Most of the answers from the Portuguese participants in this questionnaire

show that they are quite familiar and comfortable with e-government platforms. When asked about the use of e-government platforms, the opinions were unanimous. Most participants know how to navigate different platforms, check taxes online, check pension schemes and finally, have a digital signature ready.

However, most of the respondents do not feel comfortable using e-training platforms. 44% also say they believe that online platforms do not have suitable materials. Online payment services are well developed in Portugal, according to survey responses. 63% state that they are familiar with the different payment systems and consider the payment of taxes simple. A majority of the respondents say they are independent when using e-payment services.

58% of the participants say they easily navigate different online booking portals. Most participants also say they are autonomous in booking and paying for services online. In the area of e-Health, approximately 40% of respondents say they feel comfortable booking appointments online and are also able to view their medical results online.

Regarding e-participation, most participants stated that they do not know or do not feel comfortable sharing their ideas for government actions or are unfamiliar with online structured dialogue forums. Finally, one of the biggest difficulties reported by participants is the ability to do online notation or follow the decisions of the local/regional government.

Educators

18 adult educators' responses are included in the survey that was conducted in Portugal as part of the Dig-Equal project. Twelve of the 18 responses are women, and six are men. Regarding academic qualifications, 50% of the respondents hold a master's degree or a PhD, and 50% have a bachelor's degree. All responses were similar to those from the survey of adults over 45.

Only the area of e-training and the area of e-participation stand out. Educators show a greater knowledge of the platforms available for e-training and where to get quality materials. Regarding e-participation, they show a greater knowledge of platforms for participation in government actions.

Similarly to the answers of citizens older than 45, adult educators also determine online notation or following the decisions of the local/regional government as the main challenge of e-government.

When asked to discuss e-government issues in class, about 60% of educators say they have already done so. And about 67% of adult educators say they are familiar with the areas of online services available to citizens.

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5. E-government competence framework

According to the context assessment and the main results from the desk and field research, we have developed the following explorative framework as a basis for adult educators to develop complementary material in classes and develop self-paced learning material for adults. We have assessed the stated main issues and the core points that emerged from the different national studies to depict an EQF framework, distinguishing between skills, knowledge and autonomy.

Basically, each area has been detected through the desk research, and based on those, we have investigated the main barriers and scenarios faced by adults (40-65 years old). Based on the results (annex I), we have framed the description of the main groupings of e-government teaching for adult educators.

Competence Area	1. E-government literacy
Competence Statement	To distinguish the main elements of e-government (concepts, platform aims, inter-relation between a user and the public administration). To define a digital identity's main functionalities and utilities and the data protection system. To be able to apply a simple strategy to deploy a mature digital identity (connecting the dots) to solve simple everyday problems. To know the main e-government platforms of one's area, their functions, and the prerequisites (electronic signature, digital identity, digital signature etc.). Be able to apply simple strategies to use them. To appreciate the main benefits of a digital identity, to understand the purposes and the main advantages of digital public administration.

Learning Outcomes	
Knowledge	1.1 Identify the main elements of the e-government practice and services by digital public administration 1.2 List the main elements of a digital identity, pre-requisites, the main actions, opportunities and threats 1.3 Recognise the main issues and facts around digital personal safety 1.4 To list the main platforms of e-government access in one's area (Region or State) and their main functions 1.5 Recognise the main benefits of being fully capable of using e-government
Skills	1.6 To be able to comply with the basics formal requirements to access e-government services 1.7 Be able to develop simple strategies to interact with the main e-government platforms 1.8 Be able to perform simple actions to manage own data and preserve e-government access data
Autonomy	1.9 Be autonomous with the faced barriers in accessing e-government 1.10 Appreciate the advantages of e-government and share them with one's peers

Competence Area	2. E-bills/e-payments
Competence Statement	To list the main advantages of electronic payment (security, interoperability, transparency) for everyday activities. To list the main advantages of transparent taxation and the main platforms useful for tax review, both at the personal and business levels (if applicable). To distinguish the main elements of digital payment gateways (Apple/Paypal/Google Pay etc.) and the function of credit and debit cards. Be able to list the main functions of apps, NFC and QR codes to pay fines/bills. To define the main prerequisites of the main public e-payment platforms. To be able to apply a simple strategy to pay/review bills and fines according to the platform (e.g. if you have to pay electricity, to enable a certain app to accept online payments, to enable the online banking to issue payments for bills, to review one's situation on tax contribution, to recap the payments etc.). To appreciate the main benefits of saving time and have an overview of one's tax situation.

Learning Outcomes	
Knowledge	2.1 Define the main functions of e-payments (tax payment, bill payment, tax review, tax complaint) 2.2 List the main advantages of online payment (security, transparency etc.) 2.3 List the main digital gateways, the functions of credit and debit cards, NFCs and QR codes 2.4 Define the main prerequisites of the main public e-payment platforms 2.5 To list the main barriers in online payment and how to overcome them
Skills	2.6 To be able to comply with the basics formal requirements to access online payment platform 2.7 Be able to develop simple strategies to solve basic actions of your contexts (e.g. how to pay a fine online, how to review one's tax situation, how to check public reimbursements etc.)

| Autonomy | 2.8 Be autonomous with the barriers faced in online payment |
| | 2.9 Appreciate the advantages of transparency and online payment |

Competence Area	3. E-health
Competence Statement	To list the main elements of e-health services (telemedicine, e-health records, e-health booking, digital prescriptions etc.) and their main advantages. To list the main platforms useful to perform such actions and their prerequisites. To be able to apply a simple strategy per each specific function available on online health services. To appreciate the main benefits of saving time, and be able to monitor one's health conditions.
Learning Outcomes	
Knowledge	3.1 List the main functions of e-health and the advantages 3.2 List the main platforms beneficial to perform each of the actions 3.3 Define and assess the main prerequisites to interact in the main platforms
Skills	3.4 Be able to perform simple strategies per each specific function available in one's country/region 3.5 Be able to perform simple checks on one's own health checks
Autonomy	3.6 Appreciate the autonomy in contacting doctors and in being aware of own conditions 3.7 Value the knowledge and the possibility of supporting others with their everyday challenges in health management

Competence Area	4. E-leisure
Competence Statement	To list and describe the main advantages of online booking and online search. Depict the main points of online browsing - scams, unsafe websites, suspicious emails and accessibility buttons. To list the main prerequisites to book online safely (payment gateways, emails, double confirmation of payments, etc.) and depict the main actions/options in how to react in case of online fraud. Detect the main platforms where to book tickets (theatre, aeroplanes, busses, etc.) and the logic of digital tickets (no printing and portable). To appreciate the elements of an active and engaged life thanks to free time enjoyment.
Learning Outcomes	
Knowledge	4.1 Detect the main points of online browsing and how to reach the most useful results

4.2 Detect sponsored and non sponsored contents, safe and unsafe websites, suspicious emails and scams

4.3 List the main phases to safely book online (website safety check, account registration, verification of the accepted digital gateways, online reviews, terms and conditions presented, etc.)

4.4 Detect the main online platforms where to book tickets

4.5 Detect the main elements of accessibility |
| Skills | 4.5 Perform the main actions to be done to avoid main scams

4.6 Be able to choose and compare products/tickets on the main existing platforms

4.7 Compare the main functions of platforms and choose the most suitable ones

4.6 Set up add-ons on browsers to improve website accessibility |

Autonomy	4.7 To appreciate the elements of an active life and enjoy going to concerts or book a flight with the closest acquaintances and friends
	4.8 To value the capacity of detecting frauds and scams independently

Competence Area	5. E-participation
Competence Statement	To detect, list and describe the main elements of e-participation and how citizens can influence decision-making. Be aware of the existence of digital government and the main practices at a local and regional level to share the current data, decisions and budget spending. To list and describe the main prerequisites to participate online in public decisions. To define the main difficulties and the main strategies to overcome them. To learn how to communicate with the public administrations with official channels and how to get authorisations for events and activities.

Learning Outcomes	
Knowledge	5.1 List and describe the main features of e-participation

5.2 List and describe the main elements of active citizenship and why digital proactivity is important

5.3 Detect the main ways of e-participation (e.g. online referendums, online votes, forums etc.)

5.4 List and describe the main elements of public governance (where the municipality decisions are kept, how to check public expenditure, how to go to the transparency section etc.) and the main barriers faced by users |
| Skills | 5.5 Be able to deploy simple strategies to interact with the public administration according to the different strategies

5.6 Be able to deploy strategies to control public expenditure and decision-making at local level |
| Autonomy | 5.7 Appreciate the capacity to inform stakeholders about one's problems and community issues

5.8 Engage with others to raise awareness on the conditions at local level |

Competence Area	6. E-education
Competence Statement	To detect and define the main ways of learning online (live streaming, asynchronous learning, online masters, educational influencers, YouTube channels etc.) to encourage learners to approach education as a broader and flexible concept. To self-check main learning goals and how to approach them through online learning. To detect the main elements of online e-learning platforms and main recognition tools (open badges, online certificates, micro-credentials etc.). To be able to assess the most suitable materials and to apply strategies to use the relevant e-learning tools/strategies. To appreciate the value of permanent learning and continuous adjournment.

Learning Outcomes	
Knowledge	6.1 To list and describe the main tools and ways to learn online ((live streaming, asynchronous learning, online masters, educational influencers, YouTube channels, social media learning etc.) 6.2 To review the main existing e-learning platforms (mostly free) or online academies to learn about different topics 6.3 To detect the main barriers in learning online (time management, font size etc.) and how to overcome them 6.4 To know the main self-assessment techniques to check one's learning needs according to one's goals 6.5 To get to know and recognise the main current award systems (online certificates, open badges, social recognition etc.)
Skills	6.6 To be able to apply the main tools according to one's learning needs 6.7 To be able to log in to main current platforms and browse them flawlessly 6.8 To recognise and apply the main current certifications

Autonomy	6.9 To appreciate the importance of being up-to-date with current learning topics 6.10 To engage in social media for learning purposes 6.11 To acquire the life-long-learning mindset

6. Methodology

The developed framework is the working basis for adult educators to build the necessary pedagogical competencies of adult centres/educators to tackle the second and third levels of the digital divide and to raise awareness on making strategic usage of e-government. In this sense, digital education is not just acquiring what a certain is and how to use a specific platform. Above all, it is about the critical thinking of adults to develop strategies that are the basis of everyday actions.

Therefore, **the real aim of this competence framework is to embed e-government learning and practice as a regular performance in digital adult education**, pushing adults to exert their rights, appreciate their autonomy, and structure the basis of independence.

The competence framework is also versatile for adult educators who can learn more about the primary and ongoing topics of each 'sphere of rights' of e-government usage and can improve their current expertise by developing ad-hoc interactive activities that can engage adults in learning about e-government.

In this sense, **we believe that this research puts the basis for adult centres and adult educators to upgrade their current practices around digital education** and create complementary material for basic digital literacy education classes.

In most of the manuals of digital education, DigComp is the basis of the learning process. However, the main missing point is about the context and purposeful usage of the learning materials **to make adults autonomous and not simple task performers.** As portrayed by DigComp, digital competence is a combination of knowledge, skills and attitudes regarding the use of technology to perform tasks, solve problems, communicate, manage information, collaborate and create and share content effectively, appropriately, securely, critically, creatively, independently and ethically.

To properly use our framework in teaching, one should distinguish the technical competencies and the digital contextual skills. In other words, technical skills could be defined as the capability of learners to properly use an email client, to use a password, to browse safely on the Internet, and so on. However, **contextual skills are those digital skills that are about the creation of a strategy, awareness of different topics and ongoing debates, and the capability to collaborate with others to obtain information** (for example, to chat on an e-government service and be guided to solve a certain problem), the importance of reflecting on current barriers and support each other to overcome them.

It is crucial to mention that a context-based perspective means embedding any type of education in the actual needs of adults and enabling them to overcome barriers and put the basis for e-rights exertion. In other words, the digital transformation of Europe should not be confused with a pure technical action but rather understood as a social-political action where people (at any age) are the core of it.

This framework refers to Sustainable Development Goal #4 (SDG4) of the United Nations 2030 Agenda for Sustainable Development. SDG4 is the education goal, and it aims to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all." However, digital education is missing within the statements proposed by the UN. Hence, the title of this result portrays the necessity of seeing digital learning as much more than simply absorbing tasks and the technicalities, but making adults aware of their conditions, and the reasons why to be autonomous and be aware citizens.

In this way, **digital should be seen as an integral part of the domains of adults' citizenship, and the possibility of exerting rights and fully participating in the areas provided by the governments**. In fact, digital exclusion puts the basis for deepening social divide, as one cannot design and perform a certain set of actions and be part of the processes of government. Plus, not being able to act in different domains means to delegate everything to specialists and limit one's autonomy. Differently, digital education should empower people in confronting the barriers they face on a daily basis, and build together with educators tools and reflections and be in charge of one's life.

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Annex I

1. Cyprus

Guidelines on e-government or online services

Law	National legislation related to Accessibility of Websites and Mobile applications of Public Sector Bodies (N.50(I)/05.04.2019)
Scope of the law	It introduces a comprehensive system for implementing and monitoring those interventions that will facilitate the interaction of people with disabilities with the websites and mobile applications of public sector organisations. The Law, directly and indirectly, affects the users of public services, natural or legal persons, at home or abroad, including vulnerable population groups.
Link to the government website	http://www.cylaw.org/nomoi/arith/2019_1_050.pdf

Law	Law on eHealth 59(I)/2019.
Scope of the law	It establishes and regulates e-Health as the appropriate, modern means of offering Health services but also safe storage and distribution, graded accessibility and processing of Health information by all involved. The basic principle is that the citizen has ownership of his health data.
Link to the government website	http://www.cylaw.org/nomoi/arith/2019_1_059.pdf http://www.cylaw.org/nomoi/indexes/2019_1_59.html (p.13-15)

Law	Law on Electronic Money 81(I)/2012
Scope of the law	It regulates the rights to issue electronic money directly from the Cypriot Republic. It defines the authorities designated to issue money. Furthermore, it regulates the authorisation and supervision of institutions related to the issuance of electronic money.
Link to the government website	http://www.cylaw.org/nomoi/indexes/2012_1_81.html

Law	Electronic Commerce Law 156(I)/2004
Scope of the law	It ensures the free movement of information society services between the Republic of Cyprus and the member states of the European Union, relating to the establishment of service providers, commercial communications and the conclusion of electronic contracts. Services covered by the law include online information services, online advertising and online selling of products and services, among other services.
Link to the government website	http://www.cylaw.org/nomoi/indexes/2004_1_156.html

Law	Right of Access to Public Sector Information Law 184(I)/2017
Scope of the law	The Law was adopted and entered into force in 2020 to enhance transparency within the public sector. The law gave citizens the right to request and receive information, under certain conditions, from public authorities. Furthermore, the law obliged public authorities to publish certain information on their websites to avoid submitting a request form to access this information.
Link to the government website	http://www.cylaw.org/nomoi/enop/non-ind/2017_1_184/index.html

National e-government services

Area of e-government	• e-government literacy/services
Name of e-gov platform	**Web Portal of the Republic of Cyprus**
Main functions and usage	The Web Portal of the Republic of Cyprus provides information about the Government procedures and Transactions with Citizens/Businesses.
Link to the government website	http://www.cyprus.gov.cy/portal/portal.nsf/citizen_en?OpenForm&access=0&SectionId=citizen&CategoryId=none&SelectionId=home&print=0&lang=en

Area of e-government	• e-government literacy/services
Name of e-gov platform	**Ariadni Government Get Away Portal**
Main functions and usage	The Government Gateway Portal (Ariadni) enables individuals and organisations to use electronic services (e-Services) that are made available by the Government of Cyprus over the internet.
Link to the government website	http://www.proceduresinfo.gov.cy/EL/Pages/default.aspx https://eforms.eservices.cyprus.gov.cy/

Area of e-government	• e-health
Name of e-gov platform	**GESY - General Healthcare System**
Main functions and usage	Gesy is a modern, human-centred health system with the main goal to provide quality health care services to the beneficiaries. The main characteristics and basic principles of GESY are: • the universal coverage of the population • equal treatment of all beneficiaries

	• the provision of a comprehensive package of health care services • the free choice of health care provider by the beneficiary • social solidarity
Link to the government website	https://www.gesy.org.cy/launchpad.html

Regional e-government services

Area of e-government	• e-government literacy/services
Name of e-gov platform	**Nicosia Municipality**
Main functions and usage	Main aims: • Serving the needs of citizens with high-quality services • Continuous improvement of the quality of life of the citizens • Social offer through care, support, employment services • Protecting the environment with measures and plans that "hit" climate change and promote sustainable urban mobility • Providing quality entertainment through the promotion of culture and creativity of the local community • Promoting sustainable development • Strengthening the city centre to evolve into a vibrant multifunctional core • Investing in infrastructure and actions that support entrepreneurship

	• Increase accessibility
	• Utilisation and upgrade of technology for the best possible service of citizens
Link to the government website	https://www.nicosia.org.cy/el-GR/home/

Area of e-government	• **e-government literacy/services**
Name of e-gov platform	**Strovolos Municipality**
Main functions and usage	Main aim is to create growth conditions for the society, the Urban Environment, the Public Health and Culture, through continuous investment in human resources, the utilisation of the know-how, the technology, the citizen active participation and the strengthening of volunteerism.
Link to the government website	https://www.strovolos.org.cy/en/

Digital divide angels

Name of the Initiative	**Department of Information Technology Services (DITS)**
Short description	DITS is the responsible body for the promotion and implementation of e-government within the public sector. It implements its e-government Strategy as well as the programmes and the respective EU Action Plans. It develops electronic services, always taking the public's needs, mentality and culture into consideration. In particular, the DITS is in charge of the development or procurement of government-wide systems within the framework of the 'Medium-term Government Computerisation Plan', as well as several small-scale bespoke systems for specific departmental requirements.

Link to the government website	https://dits.dmrid.gov.cy/dmrid/dits/dits.nsf/home/home?opendocument

Name of the Initiative	**Press Information Office (PIO)**
Short description	The Press Information Office (PIO) is an executive member of the National Committee on the Digitisation of Cultural Heritage, created in 2017 by a decision of the Council of Ministers. The main objective is to fully develop and exploit all available resources towards digitising Cyprus' cultural heritage.
Link to the government website	https://www.pio.gov.cy/en/

Name of the Initiative	**Department of Electronic Communications (DEC)**
Short description	The decision of the Council of Ministers on 18 February 2009, appointed the Department of Electronic Communications as the executive arm of the Minister of Communications and Works to supervise the implementation of the national information society strategy (entitled 'Digital Strategy for Cyprus').
Link to the government website	https://dec.dmrid.gov.cy/dmrid/dec/ws_dec.nsf/home_en/home_en?openform

Guidelines on e-government or online services

Law	E-Government Act
Scope of the law	In order to facilitate electronic communication with the administration, the Act on the Promotion of Electronic Administration (E-Government Act) came into force in August 2013. It enables the federal, state and local governments to offer simpler, more user-friendly and more efficient electronic administrative services.
Link to the government website	• https://www.bmi.bund.de/DE/themen/moderne-verwaltung/e-government/e-government-gesetz/e-government-gesetz-node.html • http://www.gesetze-im-internet.de/egovg/

Law	Act on Secure Digital Communication and Applications in the Health Care Sector (2015)
Scope of the law	It regulates the introduction of digital applications in the German health care system by gradually replacing previously paper-based processes with IT-supported procedures (so-called e-health). The aim is to improve patient care.
Link to the government website	• https://www.bundesgesundheitsministerium.de/service/begriffe-von-a-z/e/e-health-gesetz.html • https://www.bgbl.de/xaver/bgbl/start.xav#__bgbl__%2F%2F*%5B%40attr_id%3D%27bgbl115s2408.pdf%27%5D__1658224847303

Law	Payment Services Directive 2 (2018)

Scope of the law	• to increase the security of payment transactions,
	• strengthen consumer protection,
	• promote innovation and
	• increase competition in the market.
Link to the government website	https://www.bundesbank.de/en/tasks/payment-systems/psd2/psd2-775954

Law	The Internet platform of the Petitions Committee
Description	The Petitions Committee is the central point of contact at the German Bundestag for bringing concerns, needs and suggestions to the attention of parliament. You can submit petitions electronically via the internet platform using a web form. In addition, you can find out about the petitions published by the Committee on the platform, co-sign them electronically or discuss them in forums.
Link to the government website	https://epetitionen.bundestag.de/epet/startseite.nc.html

National services on e-government

Area of e-government	• e-government literacy/services
Name of e-gov platform	**Bundesportal**
Main functions and usage	• To provide centralised, convenient access to all federal, state and local government administrative services.
	• Database for federal, state and local government administrative services
Link to the government website	https://verwaltung.bund.de/

Area of e-government	• e-bill/e-payment
Name of e-gov platform	**ELSTER**
Main functions and usage	Elster (acronym for Electronic Tax Return) is a project launched in 1996 by the German tax administrations of all states and the federal government to process tax returns and tax registrations via the Internet.
Link to the government website	https://www.elster.de/eportal/start

Area of e-government	• e-participation
Name of e-gov platform	**Petitionen**
Main functions and usage	You can submit petitions electronically via the internet platform using a web form. In addition, you can find out about the petitions published by the Committee on the platform, co-sign them electronically or discuss them in forums.
Link to the government website	https://epetitionen.bundestag.de/epet/startseite.nc.html

Regional e-government services

Area of e-government	• e-bill/e-payment
Name of e-gov platform	**Amt24**
Main functions and usage	Amt24 is the central online service portal of the Saxon administrations, providing citizens and businesses with information on administrative procedures, forms and online services.

Link to the government website	https://amt24.sachsen.de

Area of e-government	• e-participation
Name of e-gov platform	**Online– Petition**
Main functions and usage	To send requests or complaints directly to the Saxonian Parliament.
Link to the government website	https://www.landtag.sachsen.de/de/mitgestalten/petition/onlinepetition.cshtml

Area of e-government	• e-participation
Name of e-gov platform	**State Office for School and Education**
Main functions and usage	To provide information that is related to the topics of school and education.
Link to the government website	https://www.landtag.sachsen.de/de/mitgestalten/petition/onlinepetition.cshtml

Digital divide angles

Initiative	Digital for everyone
Short description	To promote digital participation in Germany.
Link to the government website	https://digitaltag.eu/initiative-digital-fuer-alle

3. Spain

Guidelines on e-government or online services

Law	Common Administrative Procedure and Legal Regime of Public Administrations
Scope of the law	Law 39/2015 (1 October) and Law 40/2015, and on the Legal Regime of the Public Sector focuses on digital services, accessible, efficient, and reliable in order to: - develop more inclusive, efficient, personalized and quality digital public services for the entire citizenry; - elaborate public policies based on data and modernization of data management; - transform the Spanish Public Administration into a more modern and "data-driven" where the information of citizens and public administrations is used efficiently to design public policies aligned with the social, economic, and territorial reality of Spain. They also focus on the democratization of access to emerging technologies, such as common assets and infrastructures that allow all public administrations to join the technological revolution that is assuming the emergence of new technological enablers such as Artificial Intelligence or data analysis technology.
Link to the government website	[PAe - Plan de Digitalización de las AAPP (administracionelectronica.gob.es)](administracionelectronica.gob.es)

Initiative	Plan España digital 2025

Scope of the law	"Plan España digital 2025" provides a set of measures, reforms and investments, articulated in ten strategic axes, with an impact on both the public and private sphere, aligned with digital policies marked by the European Commission for the future.
Link to the government website	https://administracionelectronica.gob.es/pae_Home/en/pae_Estrategias/pae_Leyes-39-y-40-2015.html?idioma=en

Initiative	Digital Agenda for Spain
Scope of the law	In 2013, the Digital Agenda for Spain was approved as a government strategy to develop the economy and the digital society in our country. Aims to encourage the deployment of networks and services to ensure digital connectivity, improve e-government and digital public services and also promote digital inclusion and literacy, training of new ICT professionals. Some more specific plans are: - Digital inclusion and employability plan to get the majority of the population to use the Internet and achieve the European objectives of digital inclusion to minimize the digital divide. - Plan of digital public services to continue promoting the digitization of public services to achieve greater efficiency and vertebration. - Plan to promote Language Technologies to promote the development of natural language processing and machine translation in Spanish and co-official languages.
Link to the government website	https://avancedigital.mineco.gob.es/programas-avance-digital/agenda-digital/Paginas/agenda-digital-para-Espana.aspx

National e-government services

Area of e-government	◆ e-education
Name of e-gov platform	*Educa en digital* **(Educate in digital)**
Main functions and usage	Due to the pandemic, the education sector has been one of the most affected. The fact that schools were closed, caused many students in a vulnerable situation could not continue with their learning due to the lack of resources to acquire devices or connectivity. Therefore is one of the areas that needs to invest more in digitization, in order to develop educational initiatives that can be adapted to the technological social context that we find.

The Council of Ministers approved the signing of an agreement between the Ministry of Education and Vocational Training, the Ministry of Economic Affairs and Digital Transformation to launch the *Educa en Digital* programme with the aim of supporting the digital transformation of education in Spain.

The programme is destined to equip educational centers with devices and connectivity. The schools will make it available to the most vulnerable students, through loans, devices that facilitate digital education both in person at school and from home.

This programme also promotes the development of platforms that serve teachers, students, and all educational authorities involved applying Artificial Intelligence. This will allow more effective monitoring of student progress and individual analysis.

The students were not the only ones affected during the pandemic. Teachers have had to adapt to the new social context that requires specific digital skills and tools. Therefore, the Ministry of Education and Vocational Training, through the National Institute of Educational Technologies |

and Teacher Training, has granted resources to teachers, while also offering teacher-training courses to bring teachers' skills into line with education in a digital environment.

Link to the government website	https://red.es/es/iniciativas/educa-en-digital

Area of e-government	• e-bill/e-payment
Name of e-gov platform	**Electronic invoicing** is regulated by the Regulation governing invoicing obligations, approved by Royal Decree 1619/2012 of 30 November.
Main functions and usage	The Ministry of Economic Affairs and Digital Transformation has promoted the "e-invoice", applicable to all public administrations, aims to promote the use of electronic invoicing and create the accounting register of invoices. This will allow for greater protection of the supplier, reducing late payment by the public sector, and better accounting control of unpaid invoices, which will contribute to better control of public expenditure and strengthen transparency.
Link to the government website	https://www.hacienda.gob.es/es-ES/Servicios/Paginas/Facturaelectronica.aspx

Area of e-government	• e-leisure
Name of e-gov platform	**Cultural Agenda**
Main functions and usage	The Ministry of Culture has created a website where you can easily find the most outstanding events in various cultural fields. These make up several categories such as: children's and youth activities, cinema, dance, exhibitions, theater, museums among many others.

Link to the government website	http://www.mcu.es/cultura20/web/guest/agenda/cultural/mcu

Area of e-government	• e-health
Name of e-gov platform	**Electronic Headquarters of the Ministry of Health, Consumption and Social Welfare**
Main functions and usage	The Electronic Headquarters of the Ministry of Health, Consumer Affairs and Social Welfare is an electronic access point to different management services belonging to the Ministry that require identification or authentication by citizens. Authentication is done electronically, through a digital certificate, or through a secure verification code (CSV in Spanish), both are digital tools.

It consists of a series of services such as: propper electronic register, consultation of the list of procedures and means for the formulation of suggestions and complaints. |
| Link to the government website | https://sede.mscbs.gob.es/ |

Area of e-government	• e-participation
Name of e-gov platform	**Transparency Portal**
Main functions and usage	The General Administration of the State has a Transparency Portal where citizens have open public participation for regulatory projects, both for prior public consultation, and for the hearing and public information in the process of developing standards.

There are two forms of participation:

- Prior public consultation. The aim is to obtain the views of citizens, organizations and associations prior to the preparation of a draft law.
- Hearing and public information. Its purpose is to obtain the opinion of citizens with rights and legitimate interests affected by a legislative project already drafted, directly or through the organizations or associations representing them, and obtain any additional contributions from other persons or entities.

There are more than 20 ministries that authorize citizen participation and have electronic headquarters for it.

Link to the government website	https://transparencia.gob.es/transparencia/transparenciaHome/index/ParticipacionCiudadana/ParticipacionProyectosNormativos.html#

Regional services on e-government

Area of e-government	• e-education
Name of e-gov platform	**"Miniops" - (IOC) Open Institute of Catalonia**
Main functions and usage	IOC (Open Institute of Catalonia), which is the distance institute of the Department of Education of the Generalitat of Catalonia, has promoted the "Miniops" project. It aims to provide lifelong learning to the adult population. Miniops are courses open to anyone who wants to use them as an element of their training. The themes are current, diverse and related to the intensive use of technology. They are applicable to daily life and short lasting as they involve between 15 and 20 hours.
Link to the government website	https://miniops.ioc.cat/miniops.html

Area of e-government	● e-bill/e-payment
Name of e-gov platform	**Electronic headquarters for payments and receipts** (*Seu electrònica de Pagaments i Rebuts*)
main functions and usage	Depending on whether you are a citizen or a company, the city of Reus has created a personalised access to process invoices and receipts. Some of its services are: payment of taxes (taxes, fees, fines), fractionation of debts, payment of late fees.
Link to the government website	https://seu.reus.cat/seu/contingutPublic/mostrarContingut/13331

Area of e-government	● e-leisure
Name of e-gov platform	**"Gaudeix de Barcelona" (Enjoy Bcn)**
Main functions and usage	In the "Office of Attention to the City", within the Virtual Office of Procedures, the city of Barcelona offers a collection of the most outstanding leisure activities of the city, as well as free passes or discounts in the main museums, parks and theatres. To access these benefits, it is necessary for the person to identify with the "IdCat Mòbil" in the virtual office, fill in a form and download the receipt.
Link to the government website	https://www.barcelona.cat/gaudirmes/ca

Area of e-government	● e-health
Name of e-gov platform	**CatSalut "La Meva Salut" – Generalitat de Catalunya**

Main functions and usage	In the region of Catalonia, from the Health Department of the Generalitat, it has been developed a mobile application called La Meva Salut "My health".
	It consists in obtaining the individual health card of each citizen who has the free health card. You can find information about your clinical history, which has been obtained during the visits to health centres of the Catalan health system.
	The main functions and services offered are: - information about assigned medical professionals; - diagnostics and personal clinical reports; - administered vaccines; - personal agenda with scheduled appointments and the possibility of requesting them, among many other related functions.
	One of the most outstanding utilities is "e-consulting". It is a form of communication with health professionals for the resolution of consultations in patients who do not require personal or urgent attention.
	During the Covid-19 pandemic, this application proved to be very beneficial for health workers as most hospitals were in a state of collapse. In this way, the app was able to solve in a very short time many different queries, avoiding the unnecessary displacement of the population that did not need urgent attention.
Link to the government website	https://catsalut.gencat.cat/ca/serveis-sanitaris/la-meva-salut/app/

Area of e-government	• e-participation
Name of e-gov platform	*Reus participa* (**Reus participates**)
Main functions and usage	By subscribing to the Digital Platform of Participation of the city of Reus, you can inform yourself of active

participatory processes, make proposals, share ideas in debates or comment, give support, vote proposals, … generating a community of people interested in improving and monitoring the quality of processes and the city. It is a space of reference to build an open, transparent, collaborative city and with the protagonism of those who inhabit it.

Link to the government website	https://participa.reus.cat/pages/faq?locale=es

Area of e-government	• e-government literacy/services
Name of e-gov platform	*Espai d'Aprenentatge Digital (*Digital Learning Space)
Main functions and usage	The Digital Learning Space is a tool provided by the City of Reus to its citizens, which is aimed at deepening the knowledge of citizens about the use of e-government. It offers guides and educational material for administrative procedures. Some of its uses are: IdCat Mòbil: It is a free system that allows you to identify and sign securely. Citizen folder: It is a personal space with all the administrative procedures of the person Electronic notifications: This tool sends notifications to inform the interested person about a resolution or administrative act that affects him .
Link to the government website	https://www.reus.cat/feselclic

Digital divide angels

Name of the initiative	"Cruz roja"
Short description	"Cruz roja" is a humanitarian institution, of a voluntary nature and of public interest, which carries out its activity under the protection of the Government of Spain. They fight the digital divide with programmes relating to the acquisition of digital skills, aimed especially for older people as well as for children. The strategy has begun with the adaptation of courses and actions to the online format, as well as the training of staff and the provision of more technological equipment.
Link to the government website	https://www2.cruzroja.es/ca/web/ahora/brecha-digital

Name of the initiative	Asociación «Somos Digital» (We are Digital Association)
Short description	Digital Association is an entity created in 2008. Being aware that not everyone has the capacity and the possibility to adapt to rapid technological changes, they provide the most vulnerable citizens with access to information and communication technologies performing this activity not for profit but as a service to the community.

Link to the government website	https://somos-digital.org/la-asociacion/

Name of the initiative	Asociación Española de Fundaciones (Spanish Association of Foundations)
Short description	The Spanish Association of Foundations has carried out a collaborative project to reduce the digital divide among the most disadvantaged students. The goal is that students who do not have resources to study online can do so if it is necessary to interrupt face-to-face classes due to the coronavirus. This chain of solidarity in the educational field was launched in full confinement, when thousands of students had to stay at home, in many cases without access to electronic devices to follow their classes. Through this project, 28 of the foundations framed in the AEF and "Cruz Roja" were able to reach such students providing 7,336 tablets.
Link to the government website	https://www.fundaciones.org/es/sector-fundacional/transformacion-digital

4. Greece

Guidelines on e-government or online services

Name of the initiative	Gov.gr
Description	"Gov.gr" is the main portal in Greece, through which users are able to access, and interact with, the digital public services they are interested in. It launched in 2020 and currently hosts more than 1.390 digital public services.
Link to the government website	https://www.gov.gr/

Name of the initiative	e-EFKA (National Social Insurance Agency)
Description	"e-EFKA" is the main agency of social insurance in Greece. Its core consists of all the insurance related public services, that use to exist in Greece, until the 1st of January 2017. Users can access the portal and interact with all the available digital services regarding their social insurance.
Link to the government website	https://www.efka.gov.gr/el

Name of the initiative	Aade (Independent Authority of Public Revenue)
Description	"Aade" is the Independent Authority of Public Revenues. Its main goal is the gathering of public revenues (payments). Its activities and practices are supervised by the Greek Parliament. The users can take care of any financial obligations towards the state, including taxes and tax declaration, bills, road and registration taxes, or fines, among others. The portal is available for businesses and citizens alike.

Link to the government website	https://www.aade.gr/

Law	**"Digital Government"** (Integration of the Directive EU 2016/2102 into the Greek Legislation) – Electronic Communication (Integration of the Directive EU 2018/1972 into the Greek Justice Legislation)**" 4727/2020**
Description	The law 4727/2020 constitutes a homogenised regulation regarding all the matters related to e-government services, and especially those connected to the utilisation of Technologies of Computer Systems and Communications. The law, enacts a national strategy regarding e-government services, called "The Bible of Digital Transformation", which sets the basis, principles, and regulations on the mentioned services and their methodologies
Link to the government website	https://www.secdigital.gov.gr/wp-content/uploads/2020/09/secdigital-nomos-4727-2020.pdf

National e-government services

Area of e-government	● **e-education**
Name of e-gov platform	**Open e-Class**
Main functions and usage	The Open e-Class platform is a comprehensive 'Course Management System', used to store and provide educational content and materials. Offered by the Greek Academic Network (GUnet), it supports and offers on-line learning services. 'Open e-Class' provides teachers with the opportunity to develop and organise on-line courses and educational material such as texts, documents, video, audio (lectures), slides-presentations, pictures etc. Students can then access the uploaded content via a student-channel which the platform features. 'Open e-Class' was designed as an

	open-source platform, with multilingual support, adaptability to current or future demands, and easy to use environment, being among its main principles.
Link to the government website	https://www.openeclass.org/

Area of e-government	● e-bill/e-payment
Name of e-gov platform	**Independent Authority of Public Revenue (AADE)**
Main functions and usage	"Aade" is the Independent Authority of Public Revenues. Its main goal is the gathering of public revenues (payments). Its activities and practices are supervised by the Greek Parliament. The users can take care of any financial obligations towards the state, including taxes and tax declaration, bills, road and registration taxes, or fines, among others. The portal is available for businesses and citizens alike.
Link to the government website	https://www.aade.gr/

Area of e-government	● e-leisure
Name of e-gov platform	**ERTFLIX**
Main functions and usage	ErtFlix is the online streaming platform of the Greek national television channels. It features movies, series, and documentaries that are not available on the channels program. Free usage applies to all users.
Link to the government website	https://www.ertflix.gr/

Area of e-government	● e-education ● e-billing/e-payment ● e-leisure ● e-health ● e-participation ● e-services/e-government literacy
Name of e-gov platform	e-gov.gr
Main functions and usage.	Gov.gr constitutes the main portal of digital services of the Public Administration in Greece, through which users are able to access, and interact with, the digital public services they are interested in. Among the thousands of available services, several e-government areas are available for users, such as doctor appointments, bookings, digital prescription etc. It consists of more than 1.390 digital services, making the platform a giant of e-government.
Link to the government website	https://www.gov.gr/

Area of e-government	● e-participation
Name of e-gov platform	ZEUS
Main functions and usage	ZEUS is a digital platform on on-line voting. It serves as a tool for any kind of electing or voting. From the preparation of the process, to its completion, everything is carried-through digitally.
Link to the government website	https://zeus.grnet.gr/zeus/

Regional services on e-government

Area of e-government	● e-government literacy/services

Name of e-gov platform	**Management of Authority and e-Government**
Main functions and usage	The responsibilities of the "Management and Authority of e-Government" are to study, develop, install, and support, through a comprehensive strategy, the computer systems and communication networks, of the West Greece Region. It assures the technical and organisational efficiency and cooperation of the West Greece Region's Computer Systems, with the networks of other services of the Public Authority, as well as the safety and integrity of the digital data exchanged.
Link to the government website	https://www.pde.gov.gr/gr/perifereia/organotiki-domi/genikes-dieuthunseis/gdel/ddhd.html

Area of e-government	● **e-participation** ● **e-government literacy/services**
Name of e-gov platform	**Patrasmart City**
Main functions and usage	A digital platform that is on the works, "Patrasmart City", focuses on transforming the city of Patras, Greece, by developing its digital dimension. The platform will function on 2 levels, with the 1st concerning citizens, and the 2nd being about public authorities. On one hand citizens will be able to get digitally informed, about the on-going traffic, parking spaces, live public transportation routes. On the other public authorities will have a better and more direct view, as well as an abundance of information, on city matters, such as protection of nearby coppices, energy saving by digital systems which measure and identify city lighting, and among others, a central control system through which, the distant management of all the Municipality's digital services, will be possible.
Link to the government website	https://www.e-patras.gr/el/prohoroyn-oi-diadikasies-apo-dimo-gia-ti-hrimatodotisi-toy-stratigikoy-planoy-patra-exypni-poli

Area of e-government	● e-education ● e-government literacy/services
Name of e-gov platform	**Diogeneia**
Main functions and usage	A digital collection, enriching the library of the University of Patras, that gathers historical information in the form of photos, videos, newspapers, etc., all digitized. The collection is offered free of charge, for all citizens.
Link to the government website	https://diogeneia.library.upatras.gr/

Digital divide angels

Name of the initiative	Gov.gr
Short description	Gov.gr, the biggest -government platform in Greece, features applications on digital training and education programs, on a variety of subjects. Though the initiatives of the programs themselves do not belong to gov.gr, the platform concentrates all the available programs and provides information and guidance to interested participants. The digital educational programs are launched by organizations such as Microsoft, Coursera, Google etc.
Link to the government website	https://www.gov.gr/ipiresies/ekpaideuse/psephiakes-dexiotetes

Name of the initiative	National Digital Academy
Short description	The National Digital Academy is an initiative from the Ministry of Digital Government, as a way to gather and develop educational material, that focuses on the empowerment of citizens' digital skills and competences.

	Among others, users will find free-to-access courses, which will not only assist in the development of their digital skills, but also on the improvement of their professional profile. A self-assessment tool is also available, through which users are able to identify the level of their digital skills.
Link to the government website	https://nationaldigitalacademy.gov.gr/

Name of the initiative	Ministry of Digital Government
Short description	As part of its campaign on promoting e-government services, the Ministry of Digital Government frequently organises educational programs on digital skills and competences, in cooperation with other organisations, public or private. The focus of the mentioned programs, is to empower citizens on the utilisation of such services, thus making the process towards Digital Government easier, faster, and inclusive.
Link to the government website	https://www.nationalcoalition.gov.gr/neos-kyklos-ekpaideytikon-programma/ https://nationaldigitalacademy.gov.gr/ https://www.secdigital.gov.gr/project/dimioyrgia-platformas-gia-enischysi-ps/

5. Italy

Guidelines on e-government or online services

Law	Circular No. 1 of 9 September 2020 The Guideline on Technical Interoperability
Scope of the initiative	Circular No. 1 of 9 September 2020 defines the Guideline on Technical Interoperability with the aim of identifying the technologies and standards that public administrations (PA) must take into account when implementing their IT systems, in order to enable the IT coordination of data between administrations as well as between public service providers and private entities and the European Union. The Guideline on Technical Interoperability contributes to the definition of the PA Interoperability Model (ModI), in line with the new European Interoperability Framework (EIF) established by the European Commission in 2017. The Guideline on Technical Interoperability: • defines the methods of integration between PAs, and between PAs citizens and businesses; • identifies the technological choices that favour the development of solutions to facilitate the use of data and digital services • promotes the adoption of the "API first" approach to guarantee other actors, public and private, accessibility and maximum interoperability of digital data and services; • favours technological standards that satisfy the need to secure interactions between PAs and between PAs, citizens and businesses; • favours interaction between PAs and between PAs, citizens and businesses, through a Contract-First approach
Link to the government website	https://trasparenza.agid.gov.it/moduli/downloadFile.php?file=oggetto_allegati/202581145100O__OCircolare+1-2020+Linea+di+indirizzo+interoperabilit%E0+tecnica.pdf

Law	2025 Italian Strategy for Technological Innovation and Digitalisation
Scope of the initiative	The strategy describes a process of structural and radical transformation of Italy in terms of digital infrastructure, public administration services, and public-private collaboration in generating innovation. The innovation strategy outlines three main challenges in line with the UN Agenda 2030 SDGs: 1. the digitisation of society in which citizens and businesses use efficient digital services of the public administration in a simple and systematic way. To this end, the strategy envisages the implementation of better digital infrastructures, the exploitation of data, the creation of digital skills, the radical digitisation of the public sector, which will also boost the digital transformation of the private sector. 2. The country's innovation envisages structural changes to foster the design and application of new technologies in the Italian production fabric and the growth of technological sectors such as robotics, mobility of the future, artificial intelligence, cyber security. 3. The sustainable and ethical development of society proposes working towards ethical, inclusive, transparent and sustainable innovation that increases the well-being of society.
Link to the government website	https://docs.italia.it/italia/mid/piano-nazionale-innovazione-2025-docs/it/stabile/index.html

Initiative	2020-2022 Three-Year Plan for IT in Public Administration

Scope of the initiative	The Three-Year Plan indicates the lines of action to promote the digital transformation of the public sector and the country.
	The strategic lines of the Plan aim to:
	1. promote the development of a digital society, in which services put citizens and businesses at the centre, through the digitalisation of the Public Administration, which is the engine of development for the entire country
	2. promote sustainable, ethical and inclusive development, through innovation and digitalisation at the service of people, communities and territories, while respecting environmental sustainability
	3. contribute to the spread of new digital technologies in the Italian productive fabric, encouraging standardisation, innovation and experimentation in the field of public services.
Link to the government website	https://pianotriennale-ict.italia.it/

Initiative	2019-2021 Fourth Open Government Partnership Action Plan
Scope of the initiative	The action plan is comprehensive strategy that will help achieve significant results in the field of transparency, civic participation, anti-corruption, simplification and public sector modernization.
	It includes 10 main actions related to:
	1. Open data;
	2. Transparency;
	3. Register of beneficial owners;
	4. Support to participation;
	5. Regulation of stakeholder;
	6. Culture of open government;
	7. Corruption prevention;
	8. Simplification, performance and equal opportunities;

	9. Digital services; 10. Digital citizenship and skills;
Link to the government website	https://open.gov.it/wp-content/uploads/2019/09/Quarto_Piano_Azione_Nazionale_OGP_Finale_06.2019-EN.pdf

Law	**Decree on Digital Simplification and Innovation (DL n. 76/2020)**
Scope of the law	Title III of the Decree Law on simplification measures for the support and dissemination of digital administration - which becomes operative with the adoption of Law No. 120/2020 - contains the regulatory provisions for speeding up the country's digital transformation process. Thus, the set of regulations aimed at redesigning digital governance, accelerating the process of digital citizenship and facilitating access to the digital services of the public administration, implementing the use of digital in administrative action, regulating public information assets, and promoting measures for innovation in order to overcome the digital divide becomes operational.
Link to the government website	https://www.gazzettaufficiale.it/eli/id/2020/07/16/20G00096/sg

Law	**Digital Administration Code (D. lgs. 217/17)**
Scope of the law	The Digital Administration Code (CAD) contains the guidelines for the digital revolution of the PA. The CAD is a single text that brings together and organises the regulations concerning the computerisation of the Public Administration in its relations with citizens and businesses. Established by Legislative Decree No. 82 of 7 March 2005, it was subsequently amended and supplemented first by Legislative Decree No. 179 of 22 August 2016 and then by Legislative

Decree No. 217 of 13 December 2017 to promote and make digital citizenship rights effective.

The latest amendment provides for the rewording of many articles on computer documents and electronic signatures to be in line with the European Directive on electronic identification and trust services for electronic transactions in the internal market (and which repealed Directive 1999/93/EC).

Link to the government website	https://www.normattiva.it/uri-res/N2Ls?urn:nir:stato:decreto.legislativo:2005-03-07;82

Law	Digital transition Decree Law 22/2021
Scope of the law	Chapter IV refers to the provisions on digital transition, in order to promote, direct, and coordinate the Government's action in the areas of technological innovation, the implementation of the Italian and European digital agenda, the Italian strategy for ultra-broadband, the digitalisation of public administrations and enterprises, as well as the digital transformation, growth and transition of the country, in the public and private sectors, access to networked services, connectivity, tangible and intangible digital infrastructures, and the national public data strategy.' Furthermore, the Interministerial Committee for Digital Transition (CITD) is established at the Presidency of the Council of Ministers
Link to the government website	https://www.gazzettaufficiale.it/eli/id/2021/03/01/21G00028/sg

National e-government services

Area of e-government	● e-government literacy/services
Name of e-gov platform	**SPID – Public System for Digital Identity**
Short description	SPID is the solution that allows Italian citizens to access all online services of the Public Administration with a single digital identity (username and password) that can be used from computers, tablets and smartphones. From the citizen's perspective, it is a free tool that allows access to all public (and even private) websites with a single set of credentials. From the service providers' perspective, it can guarantee secure and certified user identification, eliminate the need to manage customised registration/verification processes, thus reducing costs, provide qualified attributes (date/place of birth, gender, e-mail, telephone, etc.) and other attributes already populated by users, such as home address.
Link to the government website	https://developers.italia.it/en/spid/

Area of e-government	● e-bill/e-payment
Name of e-gov platform	**PagoPA**
Short description	pagoPA is the payment interface for the Public Administration. It's a platform that connects citizens with the Public Administration and the Payment Service Processors (PSP) in order to enable secure and simple payments. pagoPA allows citizens to choose the payment method among the available ones according to their needs and digital skills: ◆ credit card ◆ direct bank account charge

	• postal account • innovative payment methods available on the market
Link to the government website	https://developers.italia.it/en/pagopa/

Area of e-government	• **e-government literacy/services** • **e-bill/e-payment**
Name of e-gov platform	**IO**
Short description	IO is the app of the Italian Government that will allow all the citizens to use the national and local public services from their own smartphone in a simple, modern and secure way. It's an Open Source project that will grow day to day, involving different entities and services. IO aims to facilitate the relationship between citizens and the Public Administration (PA) through the creation of a platform of reusable components capable of making digital services more effective and improve communication between citizens and the PA. In the app IO, it is possible to access to the EU Digital Covid Certificate and to the Carta Giovani Nazionale (National Youth Card)
Link to the government website	https://developers.italia.it/en/io/

Area of e-government	• **e-education** • **e-leisure**
Name of e-gov platform	**Carta Giovani Nazionale (National Youth Card)**

Short description	The Card belongs to the EYCA (European Youth Card Association) circuit. It is an initiative aimed at Italian and European citizens resident in Italy between the ages of 18 and 35 that allows them to obtain discounts and facilitations for access to goods and services of a cultural, sporting and wellness nature. The virtual card can be downloaded directly on IO and is valid online and throughout Italy, as well as in the European countries belonging to the EYCA circuit.
Link to the government website	https://io.italia.it/carta-giovani-nazionale/

Area of e-government	● e-bill/e-payment
Name of e-gov platform	**FatturaPA (E-Invoicing)**
Short description	The InvoicePA is an electronic invoice within the meaning of Article 21(1) of Presidential Decree 633/72 and is the only type of invoice accepted by public administrations that are required by law to use the Interchange System. The InvoicePA has the following characteristics ● the content is represented, in an XML (eXtensible Markup Language) file, according to the InvoicePA format, which is the only one accepted by the Interchange System; ● the authenticity of the origin and the integrity of the content are guaranteed by the qualified electronic signature of the person issuing the invoice; ● transmission is linked to the presence of the unique identification code of the invoice recipient office listed in the Index of Public Administrations.
Link to the government website	https://developers.italia.it/en/fatturapa/

Area of e-government	● e-government literacy/services
Name of e-gov platform	**Docs Italia**
Short description	Docs Italia is the place where public digital documents can be published and browsed. It offers to the public entities a secure and feature-complete platform for publishing documents and it offers to citizens tools for searching and browsing documents that can be accessed from any device. Docs Italia simplifies the publishing process: documents use a version control system as data source, encouraging collaborative editing and allowing the community to perform analysis and comparisons between different versions.
Link to the government website	https://developers.italia.it/en/docs-italia/

Area of e-government	● e-government literacy/services
Name of e-gov platform	**Designers Italia**
Short description	The Design System for the Italian Public Administration is the benchmark for the design of digital public services: templates, kits and guides to facilitate citizen-centred design processes
Link to the government website	https://designers.italia.it/

Area of e-government	● e-participation ● e-government literacy/services
Name of e-gov platform	**dati.gov.it**
Short description	Dati.gov.it is the national list of the open data of the Italian Public Administrations. It has been created with the aim to

	aggregate in a single portal most of the open data displayed by the various administrations both local and national.
Link to the government website	https://developers.italia.it/en/datigov/

Area of e-government	● e-government literacy/services
Name of e-gov platform	**CIE - Electronic Identity Card**
Short description	The Electronic Identity Card (CIE) version 3.0 is already distributed in more than 90% of the Italian territory to citizens who ask for a new identity card or renew an expired/lost one. The CIE is also a technology that enables new digital services for citizens that can be used also via smartphones and tablets, thanks to the NFC microchip as in the case of: ● low-security electronic passages, like entrance to gyms, where the card can be simply brought close to a reader. ● High-security electronic passages, like entrance to sport venues, where many people need to be identified securely and enter quickly. ● Public transportation, also coupled with a digital wallet for paying the ticket. ● Presence check at workplace. ● Hotel check in, without the need for making copies of the document.
Link to the government website	https://developers.italia.it/en/cie/

Area of e-government	● e-government literacy/services
Name of e-gov platform	**ANPR - National Registry of Resident Population**

Short description	It is a single centralised registry containing up-to-date information on address, marital status, etc., simplifying all interactions with the public administration.
Link to the government website	https://developers.italia.it/en/anpr/

Area of e-government	● **e-education** ● **e-leisure**
Name of e-gov platform	**18app & Carta Docente**
Short description	18app and Carta Docente are two financial bonuses (500€) targeted at particular categories (18 years old people and school teachers) that can be spent in the accredited stores for buying goods and services. Users enter with their SPID digital identity into a web application that allows them to create coupons (identified by an alphanumeric code and a QR code) of arbitrary amounts, that can be later spent in the accredited stores, which can be either physical or online. At the payment stage, merchants verify that the supplied coupon is valid and subtract their value from the due amount. They will emit an invoice to the State in order to be reimbursed.
Link to the government website	https://developers.italia.it/en/18app/

Area of e-government	● **e-government literacy/services**
Name of e-gov platform	**e-Procurement Forum**
Short description	The e-Procurement Forum - established under the joint chairmanship of the Digital Italy Agency and the Ministry of Economy and Finance - has the task of creating a suitable

space for the realisation of consultation, proposal and monitoring activities in the field of e-Procurement.

The Forum - coordinated by the Digital Italy Agency - can be attended by representatives of public administrations, associations of economic operators, sector technology providers, universities and research institutes.

The Forum is entrusted with the following activities:

- examining the new national and European e-Procurement regulations
- disseminating information on eProcurement issues through seminars, conferences, press articles, etc.
- identify and foster the exchange of experiences and best practices to facilitate the emergence of interoperable solutions
- monitor the evolution of the eProcurement market
- develop and deepen issues on eProcurement, also indicated by market operators and public administrations, through the activation of working groups

Link to the government website	https://www.agid.gov.it/it/piattaforme/procurement/forum-procureme

Area of e-government	● e-government literacy/services
Name of e-gov platform	**Appaltinnovativi.gov**
Short description	Appaltinnovativi.gov is the "Platform for innovation procurement" and performs the typical functions of a public Innovation procurement broker and has the following objectives: - foster the emergence, qualification and aggregation of public demand for innovation; - to spread knowledge and awareness of the ways and means to implement innovation projects and procurement; - to involve the market as widely as possible, channelling it towards knowledge of innovative public demand and

	stimulating the proposal of the best possible solutions in a logic of open innovation; • encourage the meeting between demand and supply of innovative solutions, stimulating effective collaboration between PA, businesses and research bodies, in line with the provisions of the Italian Digital Agenda.
Link to the government website	https://appaltinnovativi.gov.it/il-portale/v

Regional services on e-government

Area of e-government	● e-leisure
Name of e-gov platform	**LAZIO YOUth CARD**
Short description	LAZIO YOUth CARD is the Lazio Region's App that offers the 900,000 young people between the ages of 14 and 30 in Lazio discounts and major reductions on goods and services such as cinemas, museums and bookshops, as well as free access to many special initiatives and many opportunities. Moreover, thanks to the partnership with EYCA, the App offers advantages for travelling in Europe
Link to the government website	https://www.regione.lazio.it/youthcard
Area of e-government	● e-health
Name of e-gov platform	**Salute Lazio**
Short description	The website Salute Lazio offers several digival services. First of all, it generates the Electronic Health Record (Fascicolo Sanitario Elettronico - FSE) which collects the medical history of an individual by making available the information and documents produced by the National Health System from doctors and health professionals, including from different structures (hospitals, family doctors and paediatricians, etc.) and from private health facilities. It contains e.g. reports, discharge letters, emergency room reports, prescriptions and all material describing individual clinical events

	It also allows to: - Retrieving health services - Choosing a family doctor - Generating income exemptions
Link to the government website	https://www.salutelazio.it/
Area of e-government	● **e-leisure**
Name of e-gov platform	**Dove Fare Sport**
Short description	Where to Do Sport is a platform developed by the Italian National Olympic Committee (CONI) and available for the regions of Calabria, Friuli-Venezia Giulia, Molise, Tuscany and the Municipality of Rome that allows you to find sports centres nearby.
Link to the government website	https://dovefaresport.coni.it/
Area of e-government	● **e-government literacy/services**
Name of e-gov platform	**Digitale Comune**
Short description	Digitale Comune is the Emilia-Romagna Region project dedicated to the digital transformation of the online services of the municipalities of the entire regional territory. The objective is to accompany Administrations in the innovation process and support citizens with dedicated information and training, so that digital is really a common good and within everyone's reach. In addition to providing national services such as payment with PagoPa, it extends the network of services to the payment of school enrolments, the payment of tickets, and also allows people to check document deadlines and make appointments in the respective offices online.

Link to the government website	https://digitale.regione.emilia-romagna.it/digitale-comune/in-evidenza/scadenza-carta-identita
Area of e-government	● **e-government literacy/services**
Name of e-gov platform	**Procedimenti**
Short description	"Procedimenti" is the new integrated information system of the Lombardy Region for the telematic management of administrative, authorisation and licensing procedures in various sectors.
	The system allows citizens and businesses to manage online procedures more easily and quickly, even from mobile devices.
	The new platform makes it possible to manage 34 different procedures in the following areas:
	● Environment (e.g. the submission of applications for environmental authorisations)
	● Building (e.g. the submission of applications for authorisation, elevation or seismic filing)
	● Energy (e.g. Energy-related authorisations for installations such as renewable energy sources, geothermal probes)
	● Trade (e.g. The issuing of Trading Cards for hawkers and the inclusion of applications for Festivals and Fairs in the Lombardy Region calendar)
	● Productive Activities and Services
	● Mobility (e.g. the submission of airport Certified Declaration of Start of Activity)
	In order to enter requests and transmit them (dossiers, notifications, filings, applications, etc.) it is necessary to have an email box, pec box and digital signature.

Link to the government website	https://www.regione.lombardia.it/wps/portal/istituzionale/ HP/DettaglioServizio/servizi-e-informazioni/Cittadini/Diritti-e -tutele/procedimentionline/procedimentionline
Area of e-government	● **e-government literacy/services**
Name of e-gov platform	**Open Innovation Lombardia**
Short description	Open Innovation Lombardia is a collaborative platform and website with the aim of proposing a new policy model for regional innovation.

Open Innovation is addressed to all actors of innovation processes in enterprises, universities and research centres, public administrations, civil society and all citizens who want to play an active role in research and innovation policies.

The objectives of the platform are:

● connection: to bring together the academic and industrial worlds and to foster networking between different professional figures.

● growth: to enhance the area's resources, know-how, human capital and social capital

● dissemination: stimulating the sharing of innovation in case studies and good practices

● knowledge: make known and take as an example the area's excellence in both the industrial and scientific research fields.

The platform is structured to offer tools for daily work and interaction to systemise skills and foster the development of projects, and tools for sharing, collaboration and support. It is a tool to create working groups, to inform and initiate discussions, to provide project management and document management tools to support research and innovation projects.

Link to the government website	https://www.regione.lombardia.it/wps/portal/istituzionale/ HP/DettaglioServizio/servizi-e-informazioni/Cittadini/scuola- universita-e-ricerca/open-innovation/open-innovation/open- innovation
Area of e-government	● **e-leisure**
Name of e-gov platform	**#SportinMontagna and the Sporty App**
Short description	The Lombardy Region has created two digital tools for the valorisation and promotion of mountain sport: the #SportinMontagna website and the Sporty App. Browsing the portal www.sportinmontagna.regione. lombardia.it you will be able to: ● discover all the infrastructures and services for sports tourism in both summer and winter ● find out about the ski slopes in the various districts ● consult the entire trail network, with routes subdivided by type and difficulty ● view all the information also in 3D version to start imagining your holiday and discover the additional opportunities for recreation and relaxation that the area offers you Sporty is the App connected to #SportinMontagna, it contains similar content but is designed to be your travelling companion, through the virtual assistant.
Link to the government website	https://www.regione.lombardia.it/wps/portal/istituzionale/ HP/DettaglioServizio/servizi-e-informazioni/Cittadini/turismo -sport-e-tempo-libero/Fare-sport/portale-sportinmontagna-e -App-Sporty/portale-sportinmontagna-e-App-Sporty

Digital divide angels

Main existing networks/associations/informal groups/public bodies/online platforms that support the access to online services, the fight against digital divide, or that provide online training for e-government access	
Name of the initiative	**Pane e Internet**
Short description	Pane e Internet is a project supported by the Emilia-Romagna Region as part of the Regional Digital Agenda to promote the development of digital skills and full access to the information society. The "digital citizen" is the central idea of the new regional planning, which refers to any citizen, regardless of age, who uses technology to obtain information, profit from online services, and take advantage of digital opportunities present in his or her area. To do this, the initiative continuously provides training for residents, digital facilitation services, and digital cultural events.
Link to the government website	https://www.paneeinternet.it/public/index

Name of the initiative	**Educazione digitale**
Short description	Educazione Digitale is a training platform, exclusively dedicated to teachers, school managers and educators working in the school environment, which aims to provide free multimedia materials and resources for schools. The Platform is a place for training, guidance, mentoring, comparison, support and extension of one's skills, in the perspective of a school based on learning rather than teaching.
Link to the government website	https://www.educazionedigitale.it/

Name of the initiative	Formez PA
Short description	Formez PA - Centre for Services, Assistance, Studies and Training for the Modernisation of Public Administration is an association recognised and financed by the Italian government. The promotion of innovation and digitalisation is among the areas of intervention of the projects managed by Formez PA.
Link to the government website	https://www.formez.it/

Name of the initiative	Competenze Digitali per la PA
Short description	The initiative intends to offer tailored training in the form of online learning in fundamental digital skills to public officials (non-IT professionals) starting with an organised and uniform survey of training requirements in order to boost engagement and motivation, performance, distribution, and quality of straightforward and quick online services for residents and enterprises.
Link to the government website	https://www.competenzedigitali.gov.it/

6. Portugal

Guidelines on e-government or online services

Law	Unique digital address and public service of electronic notification
Scope of the law	Decree-Law no. 93/2017, of 1 August, which created the unique digital address, established the public service of

	electronic notifications associated to the unique digital address. It regulated the sending and receiving of electronic notifications through the public service of electronic notifications associated with the digital single address, as a special regime
Link to the government website	https://www.portugal.gov.pt/en/gc23

Law	TIC APP – Centre for Digital Competences of the Public Administration
Scope of the law	The Resolution of the Council of Ministers no. 22/2018, established the TicAPP or Public Administration Digital Competencies Centre as a specialised competence centre in the field of digital transformation of the Public Administration. It operates within the Administrative Modernisation Agency to support different government areas in the process of digital transformation.
Link to the government website	https://www.portugal.gov.pt/en/gc23

Law	Decree-Law on Digital Services
Scope of the law	The Decree-Law 74/2014, of 13 May, revised by Decree-Law no. 105/2017 of 29 August, established the rule of digital provision of public services by default. It enshrined assisted digital attendance as an indispensable complement via a Citizen Spot network, where those who cannot, will not, or do not know how to use digital tools, can benefit from the support and guidance of a public servant/digital mediator: the objective is to give all citizens the possibility to access digital services.
Link to the government website	https://www.portugal.gov.pt/en/gc23

Law	Decree-Law on Administrative Modernisation
Scope of the law	The Decree-Law no. 135/ 99, reviewed by the Decree-Law no. 73/2014, approved in May 2014, established important administrative modernisation measures, including the 'once only' principle, according to which the citizen must not be obliged to give the Public Administration the same document twice. The 'once only' principle leads to several standards, particularly relating to administrative communications.
Link to the government website	https://www.portugal.gov.pt/en/gc23

Law	Decree-Law on the Zero Licensing
Scope of the law	Decree-Law no. 48/2011 and Decree-Law nº10/2015. The Portuguese Zero Licensing programme is one of the most representative initiatives of the e-government agenda. Its main objective is to considerably simplify the licensing procedures necessary to carry out several economic activities by reducing red tape through an electronic point of single contact. One of the first objectives was achieved in April 2011, following the approval of Decree-Law no. 48/2011, which saw a significant reduction in the required licences. It was further strengthened with the approval of Decree-Law nº10/2015, which ruled the entire practice regarding food and beverage establishments and also trade and services establishments.
Link to the government website	https://www.portugal.gov.pt/en/gc23

Law	Decree-Law on the Responsible Industry Regime

Scope of the law	Also known as the Zero Licensing for industry, the Decree-Law no. 169/2012, which was approved in August 2012, regulates the practice of industrial activity. This Decree-Law was revoked by Decree-Law no. 73/2015, in May2015.
Link to the government website	https://www.portugal.gov.pt/en/gc23

National e-government services

Area of e-government	● e-government literacy/services
Name of e-gov platform	**Government Portal**
Short description	The Government Portal is the institutional website of the Portuguese Government, providing information on matters such as the Government Program, the Government composition, diverse documentation (e.g., political communications) or ongoing public consultations, as well as generic information about Portugal.
Link to the government website	https://www.portugal.gov.pt/en/gc21

Area of e-government	● e-government literacy/services
Name of e-gov platform	**ePortugal portal**
Main functions and usage	The ePortugal portal, launched in February 2019, is the main channel for accessing digital services of the public administration, adding in the same place all the services dedicated to citizens and companies and a directory of

addresses, websites and mobile applications. The ePortugal portal is dynamic and adaptable for individual users, offering several customisation options and a reserved area that allows them to access different information regarding their relationship with the Public Administration.

Likewise, the portal was developed with a focus on accessibility and usability, adapting to any type of device and presenting a simpler and clearer language. It also facilitates the interaction between citizens/companies and the State, providing innovative support mechanisms such as the chatbot SIGMA or the possibility of taking digital queue tickets for onsite public services through the Citizen Map. The Citizen Map, which provides geo-location and information for all Portuguese public services, is another relevant feature, available at mapa.eportugal.gov.pt (a standalone app will soon be launched)

Link to the government website	https://eportugal.gov.pt/en/inicio

Area of e-government	● e-government literacy/services
Name of e-gov platform	**Open Data Portal (Dados.gov)**
Main functions and usage	Following international practices in the area (e.g. the US or the UK Data.Gov projects), the Administrative Modernisation Agency is committed to the development of a wide and open platform containing all kinds of data from public bodies. The Dados.gov Portal makes available to citizens an extensive range of information from very diverse areas. The objective of this policy - keeping in mind the right of any citizen to consult public administration information - is to democratise that access by facilitating the means to obtain it. Dados.gov web-portal was relaunched in May 2018 as Dados.gov+, replacing its previous 2012 version. Developed under the SIMPLEX+ Programme, this new version was designed to conform to the best international practices in the field, and incorporate innovative solutions in terms of

	user experience, content structure, data integration and user licenses.
	Managed by AMA and available in open source, dados.gov was based on the French UDATA platform, which was developed by ETALAB, and already has more than 2030 datasets. It's free and open to all users that want to access data, but also to citizens and organisations that wish to make data of public interest available.
	All they need to do is register, receive their API key, and characterise the dataset to upload. Each dataset can have more than one associated resource and can be published in different and multiple formats, which is one of the features enabling data reuse.
	It's also possible to index datasets, by introducing an URL referring to the origin of the data, which is ideal for entities that already have the information available in their own platforms, like the partilha.justiça.gov.pt, from the Justice Ministry, or the Lisboa Aberta portal, from the Lisbon city hall.
	In case the supplying entity already possesses its own data portal, the publishing process can also be made through data harvest, thus collecting the data in a regular and automated way.
Link to the government website	https://dados.gov.pt/en/

Area of e-government	● e-participation
Name of e-gov platform	OGP Portugal
Main functions and usage	The OGP Portugal website was developed as part of the Portuguese participation in the Open Government Partnership, to centralize all information about the process and to foster public participation, collecting contributions from citizens and ensuring their feedback.
	This portal has been available since October 2018, and it is also highlighted in the "Transparency" area of the ePortugal

	portal, with the objective of promoting its dissemination and visibility.
Link to the government website	https://ogp.eportugal.gov.pt/en/inicio

Area of e-government	• e-bill/e-payment
Name of e-gov platform	**Tax and Customs Authority Portal (portaldasfinancas.gov)**
Main functions and usage	The Ministry of Finance makes available to citizens and companies a web portal allowing for tax submission and fiscal situation consultation, among a wide range of digital services. Users can consult their tax files, statistics and conduct simulations. Advanced functionalities were recently integrated into the system allowing for enhanced usability, the most notable being the automated income tax declaration. Available since 2017 as a Simplex+ measure, this feature automatically prefills the citizen's income statement with all relevant data conforming to data protection regulations; the declaration receipts and the notification of the final tax calculation can be confirmed electronically. The portadaslfinancas.gov allows secure authentication via the Citizen Card and the Digital Mobile Key, and a complimentary app was made available in 2018 to facilitate the payment of taxes and the consultation of the citizen's fiscal status.
Link to the government website	https://www.portaldasfinancas.gov.pt/pt/home.action

Area of e-government	● e-health
Name of e-gov platform	**National Health System**
Main functions and usage	Available since 2016, this platform provides access to a wide range of information and services online, made available by

	the institutions that integrate the Portuguese National Health System and other institutions of the Ministry of Health. The portal allows, among other functions: • Consultation/download of diverse health indicators; • Accessing geo-referenced information about health providers; • Making online medical appointments and requesting renewal of medical prescriptions; • Accessing didactic materials on Health Literacy. The National Health System Portal includes the National Health System Transparency Portal, which centralises the data produced by the health care entities in a digital and accessible platform, so that this information can be analysed and reused without any restriction by the general population.
Link to the government website	https://www.sns.gov.pt/

Area of e-government	• e-government literacy/services
Name of e-gov platform	**Social Security Portal - Direct Social Security**
Main functions and usage	Via the Direct Social Security Portal, citizens can access their Social Security data and perform a wide range of services from submitting requests for unemployment benefits, child allowances, leaves to payments, while enjoying and having access to the information they need regarding their rights and duties in the social security domains. Authentication via Citizen Card (eID) is available and the platform presents lots of information already prefilled, based on back office automation and interconnection with other public organisations.

Link to the government website	https://app.seg-social.pt/sso/login?service=https%3A%2F%2Fapp.seg-social.pt%2Fptss%2Fcaslogin

Area of e-government	● e-government literacy/services
Name of e-gov platform	**Justice portal**
Main functions and usage	The Justica.gov.pt, launched by the Ministry of Justice in 2017, offers a wide catalogue of services related to the area of Justice, including courts, registries and notary, reintegration and prison services and industrial property. The platform congregates in a single website information about the judicial services in a clearer and more accessible language (all contents are written in 'plain Portuguese' and can be easily searched by using a simple interface). The platform represents a watershed moment in how the citizen and companies, and their agents, interact with the various services in the justice sector.
Link to the government website	https://justica.gov.pt/

Area of e-government	● e-government literacy/services
Name of e-gov platform	**Closer Justice (Justiça + Próxima)**
Main functions and usage	This portal fosters citizens' participation regarding ideas, initiatives and projects to improve justice in Portugal. It intends to be a participatory tool, also giving access to various information in the area of Justice. The Closer Justice programme hopes to increase transparency and trust in the justice institutions acting through four fundamental pillars: (i) enhancing efficiency and strengthening justice sector management through simplification and dematerialisation of procedures and the

use of interoperable technologies; (ii) innovation, by modernising justice; (iii) proximity, pursuing the approach to citizens, by offering clear, transparent and accountable information; and (iv) humanisation, by valuing tangible and intangible resources.

In this context, technology stands out as a pivotal tool for engaging stakeholders and promoting a 'digital by default' principle for courts and other justice stakeholders, with a comprehensive digitalisation and modernisation package consisting of more than 175 measures (new measures are continuously added to the plan) and a total budget of EUR 42 million.

Link to the government website	https://justicamaisproxima.justica.gov.pt/

Area of e-government	● **e-government literacy/services**
Name of e-gov platform	**CITIUS**
Main functions and usage	The CITIUS service enables electronic submission of documents for use in court cases. Lawyers can present evidence and documents to the courts, check their distribution, look up cases and keep track of fees electronically. For civil cases and injunctions, most correspondence can be conducted electronically. Sets of copies and duplicates are no longer needed. The system is secure in that the use of personal, nontransferable electronic certificates is required.
Link to the government website	https://citius.tribunaisnet.mj.pt/habilus/myhabilus/login.aspx

Area of e-government	● **e-participation** ● **e-government literacy/services**

Name of e-gov platform	**Electronic Yellow Book**
Main functions and usage	The Electronic Yellow Book, launched as a Simplex+ initiative, allows everyone to leave a complaint, a suggestion, or write a compliment, regarding the public administration and its services, namely the digital ones.
Link to the government website	https://www.livroamarelo.gov.pt/en/homee

Area of e-government	● **e-education** ● **e-leisure** ● **e-participation** ● **e-government literacy/services**
Name of e-gov platform	**Portal REA**
Main functions and usage	Launched in December 2016, the State of the Environment portal (portal REA) contains online information about environmental indicators. Developed and managed by the Portuguese Environment Agency, this platform includes information and analysis for a wide range of end-users and is expected to serve as a reference for consultation on key indicators and environmental trends in Portugal. The REA portal aggregates a diverse number of indicators on the state of the environment, presented in 49 thematic sheets that are distributed in eight environmental domains: Economy and Environment, Energy and Climate, Transport, Air, Water, Soil and Biodiversity, Waste and Environmental Risks.
Link to the government website	https://rea.apambiente.pt/

Area of e-government	● **e-participation** ● **e-government literacy/services**
Name of e-gov platform	**Platform Denunciar**

Main functions and usage	Launched in 2018, Platform Denunciar was designed as an electronic desk for complaints. It is hosted by the General Inspectorate for the Agriculture, Sea, Environment and Spatial Planning.
Link to the government website	https://www.igamaot.gov.pt/balcao-eletronico/denunciar/

Area of e-government	● **e-education** ● **e-leisure** ● **e-participation** ● **e-government literacy/services**
Name of e-gov platform	**Platform CINERGIA**
Main functions and usage	CINERGIA, Information Centre for Energy, is an online platform launched in December 2018 by the Portuguese Agency for Energy (ADENE) to disseminate an integrated vision of the energy sector from production to transport, storage and consumption, contributing to a better energy literacy by the civil society. The portal includes an electric mobility simulator and allows users to plan trips by calculating the carbon footprint associated with different modes of transportation. There is also an energetic map by district, and users can make quizzes to test their knowledge on the subject.
Link to the government website	https://www.cinergia.pt/pt/

Area of e-government	● **e-leisure** ● **e-government literacy/services**
Name of e-gov platform	**Captaincy Online portal**
Main functions and usage	In September 2018, the Captaincy Online web-portal and its corresponding mobile app were launched. This platform,

	which resulted from a SIMPLEX+ project, offers information and online services to seafarers, ship-owners, companies and other users on maritime-related licences, registrations, applications and statements requests, professional diving, maritime courses and other National Maritime Authority (NMA) services, including services cost simulation and electronic payment. It constitutes a one-stop shop for NMA services, and allows automatic data sharing with other governmental entities. The application is also accessible through Automatic Terminals located at the 28 National Captaincies, located all over the Portuguese coastline and at the fishing auction houses. Additionally, an app is available for maritime police to conduct surveillance operations, allowing access to the application registered data on seafarers, divers, boats, etc.
Link to the government website	https://capitaniaonline.amn.pt/COLWeb/

Area of e-government	● e-education ● e-leisure
Name of e-gov platform	**National Defence Memory Institutions**
Main functions and usage	In January 2019, the National Defence Memory Institutions website (NDMI-w) became available. The NDMI-w resulted from a SIMPLEX+ project and provides centralised online access and a specialised search function for the main defence-related National Archives (6), Museums (10) and Libraries (23), located throughout the Portuguese territory. To date, the platform holds more than 630 000 entries, and documentation and cultural artefacts registry and digital scanning, both in 2D and 3D, is ongoing at all 'memory institutions'. The aim of this platform is to: • Provide access to virtually all collections of the national defence-related historical and cultural

heritage, through proper metadata identification and digital registration;

- Reinforce conservation mechanisms by leveraging the digitisation process of historical documentation and cultural artefacts;

- Provide scale at National Defence level and to be a reference within Public Administration;

- Creation of the National Defence Memory Institutions Network and beyond, as a means of share-to-gain.

Link to the government website	https://portalmemoria.defesa.gov.pt/#/

Area of e-government	● e-government literacy/services
Name of e-gov platform	**Entrepreneur's Desk**
Main functions and usage	The Entrepreneur's Desk, which is within the ePortugal Portal, is the Point of Single Contact to access digital services related to the exercise of economic activity. Services provided include the complete setting up of a business through the web site ('Online Business'), as well as the Business Electronic Dossier, where the different interactions of each business with the public administrations are gathered. These are easily and securely available to business partners or their representatives through identity authentication by advanced eSignature certificates. This procedure ensures full transparency on the status of the respective processes. The Entrepreneur's Desk also brings together information of interest for business activities related to the management, expansion and closure of enterprises, and provides information on opportunities for businesses. This platform registered 87 471 applications in 2018 (+6.2% vs 2017) and made available, by the end of the year, a total of 275 transactional services (+116.5%), 148 of which

	corresponded to new services added in 2018. In addition to this digital platform, there is also a national network of physical desks, the Business Spots and the Business Support Centres, which provide both face-to-face and digitally assisted services.
Link to the government website	https://eportugal.gov.pt/en/inicio/espaco-empresa

Area of e-government	● **e-bill/e-payment** ● **e-government literacy/services**
Name of e-gov platform	**Simplified Business Information (IES)**
Main functions and usage	IES is the delivery of declarative obligations related to accounting, taxation and statistics via electronic means and in a completely dematerialised form. All information which businesses have to provide concerning their annual accounts is transmitted collectively and to a single entity. The IES submission has to be made through the Business portal, by choosing IES and filling in the form directly or by opening and sending the corresponding file previously formatted according to specifications laid down by law. It is then submitted electronically to the IES, and the automaticallygenerated ATM reference has to be retained to allow the payment of the accountability submission registration. The registration for the accountability submission has to be paid within five working days.
Link to the government website	https://justica.gov.pt/Servicos/Entregar-declaracao-de-conta s-anuais

Area of e-government	● **e-education** ● **e-participation** ● **e-government literacy/services**

Name of e-gov platform	**Access Unit Portal**
Main functions and usage	The overall purpose of the Access Unit Portal run by the Administrative Modernisation Agency is to promote the development, availability and dissemination of ICT accessibility rules and regulation to enable citizens with special needs to overcome their difficulties. To do so, it aims to minimise the digital barriers in content, software and hardware interfaces offered by the central government on the Internet.
Link to the government website	https://www.acessibilidade.gov.pt/quem-somos/

Area of e-government	● **e-leisure**
Name of e-gov platform	**És Cultura 18**
Main functions and usage	This portal was created within the operationalisation of the project Culture for All, which won, at the national level, the first Edition of the Portugal Participatory Budget. The project promoted free access to cultural events to young people aged 18, and was launched on 16 April 2018, at the National Museum of Ancient Art. It currently provides around 400 cultural offerings involving heritage, performing arts, visual arts, books and cinema, among other areas, in more than 70 public and private entities. Within the scope of state agencies and until March 2019, more than 3 300 young people adhered to this measure, which will continue beyond 2019.
Link to the government website	https://www.culturaportugal.gov.pt/

Area of e-government	● **e-leisure**
Name of e-gov platform	**LIVRAR**

Main functions and usage	This initiative was also created within the operationalisation of the project Culture for All, the project winner at national level of the first Edition of the Portugal Participatory Budget. It was launched on 13 December 2018, in the National Library of Portugal, with its main objective the donation of books to libraries and the sharing of books among its users. LIVRAR is the movement that is created when a book travels from one point to another, sharing a little of each person that donates a book. By May 2019, it registered 1,363 private users, 31 libraries/entities, 661 registered books and 1 216 book requests. The platform will continue to operate after the end of the project that gave rise to it.
Link to the government website	https://livrar.pt/

Digital divide angels

Name of the initiative	DECO PROTESTE
Short description	DECO PROTESTE, created in 1991, is the largest consumer protection organisation in Portugal. We are the only ones testing products, comparing quality and delivering the best results. Our action is based on vast technical, scientific and political work, allowing us to present and deliver real solutions to real problems. We intervene independently with public and private entities to defend their rights. In addition to independent laboratory tests, we provide the information service for legal advice, the online Complaint platform (where we bridge companies and consumers) and the DECO+ card benefits program. We are by your side in the various stages of a purchase process.
Link to the government website	https://www.deco.proteste.pt/info/os-nossos-servicos/quem-somos-e-o-que-fazemos

Annex II

Synthesis of the field research on citizens

Synthesis of the field research on adult educators