European
Commission

eGovernment Benchmark 2020

eGovernment that works for the people

INSIGHT REPORT

A study prepared for the European Commission DG Communications Networks, Content & Technology by:

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2020 Directorate-General for Communications Networks, Content and Technology EN

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Executive summary

eGovernment in the Spotlight

The COVID-19 crisis has shone a spotlight on the importance of eGovernment. Across the EU, citizens who are unable to leave their homes have been wholly dependent on the digital delivery of public services. From running a business, to seeking justice on a small claim, to enrolling in education, day-to-day life has moved online for hundreds of thousands of people.

The crisis has thus highlighted the importance of the yearly eGovernment Benchmark assessment, which is summarised in this report. This report, like its predecessors, provides a comprehensive, data-driven, evaluation of progress in the digital provision of public services across the 36 countries[1] measured. It benchmarks countries against the availability and characteristics of digital public services. It allows participating countries to better understand where they stand, where their strengths lie and where they could fare better.

1. **User Centricity** – To what extent are services provided online? How mobile friendly are they? And what online support and feedback mechanisms are in place?
2. **Transparency** – Are public administrations providing clear, openly communicated information about how their services are delivered? Are they transparent about the responsibilities and performance of their public organisations, and the way people's personal data is being processed?
3. **Key Enablers** – What technological enablers are in place for the delivery of eGovernment services?
4. **Cross-Border Mobility** – How easily are citizens from abroad able to access and use the online services?

Where Does Europe Stand?

In order to give a consistent and repeatable means of making valid comparisons, performance of online public services is evaluated against four "top-level" benchmarks. The average score of the four top-level benchmarks represents the overall eGovernment performance of a country, from 0% to 100%. The EU27+ overall performance stands at 68%. Two years ago, the overall performance sat at 62%. A closer examination of these four top-level benchmarks reveals that:

1. **User Centricity**: The focus on end user experience has seen this top-level benchmark increase to 87% (4 percentage points higher than two years ago)[2]. More than three out of four public services can be fully completed online (78%). Users can find the services they are looking for via portal websites 95% of the time, and information about these services online nearly 98% of the time. The 'one-stop-shop' portal websites help users to find services and commonly provide online support and feedback channels. Of the three sub-indicators, the most recent one, *Mobile Friendliness*, scores lowest, albeit having seen the highest increase, up from 62% two years ago to 76% today. While this means that nearly one in four government websites are still not fully compatible with mobile devices, the speed of improvement is comforting.
2. **Transparency**: This area experienced the biggest improvement over the last two years, now sitting at 66%, increasing from 59% (7 p.p. higher than two years ago). Users receive a delivery notice when a service is completed in 64% of cases. Moreover, 98% of the websites were transparent about the organisational structure, mission and responsibilities, access to information, the possibility to request additional information and where to find the corresponding legislation.

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[1] The 36 participating countries are the 27 European Union Member States, Iceland, Norway, Montenegro, Republic of Serbia, Switzerland, Turkey and the United Kingdom, as well as Albania and North Macedonia.

[2] The percentage point (p.p.) changes refer to the last reporting period. The benchmark data is collected biennially. This report is based on data collected in 2018 and 2019 (referred to as the 2019 biennial average), comparing it to the previous data collection exercise in 2016 and 2017 (referred to as the 2017 biennial average).

However, the time it will take to complete online forms and obtain a service is only clear for just under half of the services (46%). It is also unclear how the government processes your personal data. The possibility to see whether your data has been used is present in 64% of the countries, when your data has been used in 42% of the countries and by whom in only 17% of the countries.

3. **Key Enablers**: European countries should improve the implementation of digital enablers in eGovernment service delivery. In total, this top-level benchmark stands at 61% across the EU27+ (4 p.p. higher than two years ago), showing ample room for improvement. On a positive note, sending and obtaining official documentation via digital channels is possible for two-thirds (68%) of the services. However, users can use their own national eID for only half (57%) of the services that require online identification. Moreover, only half (54%) of online forms contain pre-filled data to ease completion. Two thirds (67%) of government organisations allow their users to receive letters via email rather than post. Ten countries even implemented a digital post-box across all eight Life Events.
4. **Cross-Border Mobility**: This is an area for improvement. Users that want to obtain a service from another European country can do so in 62% of the services for citizens and 76% of the services for businesses. The cross-border acceptance of eIDs still requires the most investment by the EU27+. Citizens can use their own national eID solution for only 9% of the services from other countries. For businesses this number jumps to 36%. The Cross-border Mobility top-level benchmark scores the lowest of the four top-level benchmarks (56% across the EU27+, 7 p.p. higher than two years ago).

How Do Countries Compare?

Over the last two years, every one of the 36 countries measured (referred to as “EU27+” in the following) has improved the digital delivery of public services according to the four benchmarks above. However, the scale of improvement and the overall performance varies substantially.

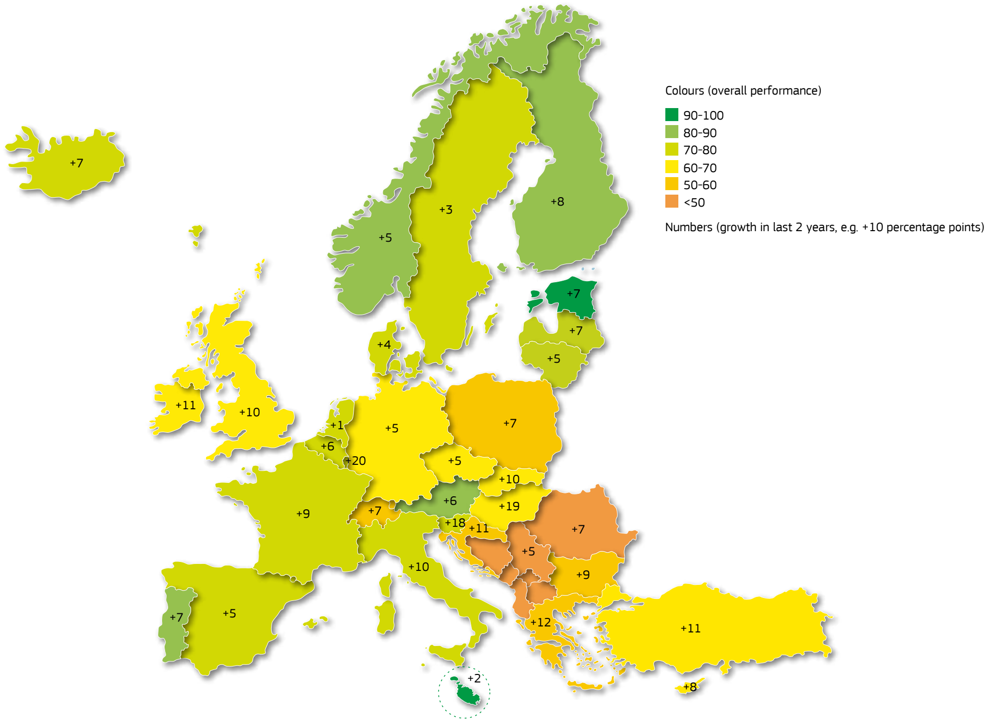

Figure 1.1 Overall country performance (2019 biennial average + growth compared to two years ago)

The European frontrunners in eGovernment are Malta (overall score of 97%), Estonia (92%), Austria (87%) and Latvia (87%). These countries score highest across all four top-level benchmarks, followed closely by Denmark (84%), Lithuania (83%) and Finland (83%).

In terms of progress, Luxembourg, Hungary and Slovenia have made the greatest advances in the last two years, rising with 20, 19 and 18 percentage points respectively (resulting in corresponding overall scores of 79%, 63% and 72%).

With few exceptions, the countries at the lower end of the performance scale have improved, thus lowering the gap between frontrunners and laggards. This is not the only gap that is narrowing. The variance of digital public service delivery at different administrative levels within one country is also diminishing. While it is comforting to note that these gaps are closing, progress is still lagging behind expectations in some areas.

The two performance gaps that are narrowing

Frontrunners vs laggards: The five top performers now score 89% on average, while the five lowest performing countries stand at 54%. This current gap for overall eGovernment performance of 35 p.p. contrasts with a gap of 50 p.p. two years ago. For the *User Centricity* top-level benchmark, the gap has narrowed to 19 p.p. The gaps are more persistent in the areas of *Transparency* (42 p.p.) and *Cross-border Mobility* (49 p.p.). The gap between the five top performers and bottom performers is most apparent for *Key Enablers* (a gap of 58 p.p.). More specifically, countries are catching up on building services with user support and feedback channels, and the online availability of services (both with a gap of 20 p.p.) and transparency of public organisations (with a gap of 32 p.p.). However, in the areas of pre-filling online forms with authentic sources and implementing eIDs nationally, we still observe gaps of 64 p.p. and 61 p.p. respectively, with minimal progress achieved in narrowing these variations (compared to gaps of 64 p.p. and 68 p.p. two years ago).

National vs Local: Historically, national administrations have had higher *Online Availability* of services than regional and local administrations. However, the gap between national and local government administrations has narrowed over the past two years. Online availability for national governments grew from 69% to 89%. Local administrations improved at a higher pace from 49% to 77%. This led to some narrowing of the gap between the national and local government levels from 20 p.p. to 12 p.p. Two years ago, 12 countries saw a performance gap of 25 p.p. or more. This number has since decreased to only 5 countries.

The two performance gaps that persist

Citizens vs Businesses: In contrast to these narrowing gaps, the long-observed difference between the *Online Availability* of services for business-related services and services targeting citizens persists. Over the last two years, online availability of services targeted towards businesses increased by 6 p.p., from 70% to 76%, while services targeted towards citizens improved by only 5 p.p., from 60% to 65%. Moreover, businesses receive more *Transparency of Service Delivery* (70% versus 54%) and can upload or obtain *eDocuments* with 82% of the services (instead of 64% for citizens). When businesses apply for a service, governments pre-fill 70% of the online application forms. Only 53% of the application forms for citizen-related services contain pre-populated data.

Foreign vs Domestic: While the availability of online services for foreign users is improving, progress in this area is far too slow. The *Cross-Border Online Availability* indicator reached 69%, whereas the *Online Availability* indicator for national users reached 87%. This 18 p.p. gap is reduced from a 20 p.p. gap two years ago. Primarily, this is because in the procedures where identification is required, foreign eIDs are not accepted. Citizens can use their own national eID solution for only 9% (6% two years ago) of the services from other countries which require and accept domestic eIDs. This barrier is followed by documentation issues: 67% (80% two years ago) of the procedures where documentation is required do not allow foreigners to upload or retrieve documents. Language problems pose an additional barrier: 43% (50% two years ago) of the procedures lack alternative languages on the service website. 18% (22% two years ago) of the services cannot be completed, because users are requested to physically visit a government office and foreign users cannot do so while being abroad.

The Cybersecurity Challenge

When users visit government websites, they must be able to trust those websites. However, only 20% of all URLs assessed meet half of the 14 basic security criteria evaluated. This underlines the importance of significantly enhancing website security levels to ensure that users can trust public sector websites and services.

Success Breeds Success

The study's "benchlearning" analysis calibrates the benchmark performance of each country against various characteristics. This means that countries operating within similar contexts, but with different levels of eGovernment performance, can learn from each other. In general, countries with high scores in the online supply of digital services (i.e. a high level of *Digitalisation*) tend to also have a high number of users of these services (i.e. a high level of *Penetration*). What the data shows is the development of a 'virtuous circle': public administrations develop better and better digital services because user demand is high; and more and more users access government services online because these services are available and easy to use.

Overall Strong Progress

The data indicates across the board progress in providing government services online and in a user-centric manner. That said, there is room for improving the adoption of *Key Enablers*, such as eIDs. Moreover, making it possible for citizens to obtain services across European borders is key for reaping the benefits for the European single market. New opportunities, such as increasing the compatibility with mobile devices, are being seized by many public administrations. Nevertheless, governments must better inform citizens on the use of their personal data, and security challenges have not been fully dealt with yet. The COVID-19 crisis will have a major impact on online public service provision and can act as a catalyst for change. Therefore, we are likely to see an acceleration in the development and quality of eGovernment services across Europe, and how they can be put to work for all people.

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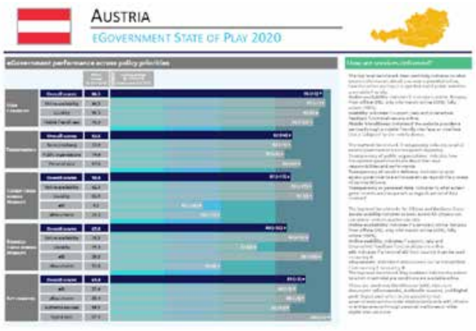
1 Introduction

1

Introduction

The eGovernment Benchmark provides insight into the efficiency of digital public services across Europe. It has become an internationally recognised study that highlights the state-of-play within online Government services across Europe, continually improving the platforms for citizens, businesses tourists and expat communities.

This study evaluates the performance of online public services relating to four “top-level” benchmarks: *User Centricity*, *Transparency, Cross-Border Mobility* and the use of *Key Enablers*.



AUSTRIA
EGOVERNMENT STATE OF PLAY 2020

Figure 1.1 Country factsheet example

36 countries participate in the study. These countries are the 27 European Union Member States, Iceland, Norway, Montenegro, Republic of Serbia, Switzerland, Turkey and the United Kingdom, as well as Albania and North Macedonia. Throughout this report, this group of countries will be referred to as ‘Europe’ or ‘EU27+’. Country factsheets are available per country.

The eGovernment Benchmark framework is linked to European policy priorities, the eGovernment Action Plan[3] and the Tallinn Declaration[4]. The Tallinn Declaration was signed by EU Member States, and subsequently by all Member States and EFTA countries in October 2017. It marked a new commitment at EU level to ensure high-quality digital services with a user-centric approach for citizens, as well as seamless cross-border public services for businesses.

This goes hand-in-hand with the eGovernment Action Plan 2016-2020, which aims to accelerate the digital transformation of eGovernment in the areas of:

- Modernising Public Administration to create efficient online services that are accessible to all;
- Improving Cross-Border Mobility by delivering services to all citizens and businesses whether foreign or national; and
- Designing and delivering new digital services to improve Digital Interaction.

The eGovernment Benchmark is an important framework for ensuring the continual improvement of our online and digital public services. By comparing past and present developments, we are able to pinpoint key action points for future enhancement. This helps ensure the provision of efficient online public services in an increasingly digital world and, more importantly, their accessibility for all citizens of the EU27+.

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[3] European Commission (2016). The EU eGovernment Action Plan 2016-2020. Accelerating the digital transformation of government. Available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52016DC0179.

[4] Tallinn Ministerial Declaration on eGovernment. Available at: http://ec.europa.eu/newsroom/document.cfm?doc_id=47559.

2 Scope – What we Measure and How we Measure it

Scope – What we Measure and How we Measure it

In order to have a comprehensive overview of how countries are performing in the area of eGovernment, they are measured across a set of eight Life Events. These Life Events refer to a bundle of digital services that the average citizen or business is likely to require at some point in time. Assessment takes place biennially, with data on the Life Events *Business Start-Up*, *Losing and Finding a Job*, *Studying* and *Family* collected in even years, whereas the Life Events *Regular Business Operations*, *Starting a Small Claims Procedure*, *Owning and Driving a Car* and *Moving* are assessed in odd years. This report presents the findings for data collected in 2018 and 2019.

What we Measure for Businesses

- **Business Start-Up** (2018): For citizens that want to start a business, we assess the administrative steps to register the new company. We also evaluate whether users can obtain a tax registration number online and the ease of which they can find mandatory insurance schemes. Early trading activities, such as hiring employees and requesting permits, are measured too.
- **Regular Business Operations** (2019): For experienced entrepreneurs, we assess corporate tax declaration and submission of financial reports via digital channels. We check for information on working conditions for employees; and whether it is possible to manage changing employee statuses online.

What we Measure for Citizens

- **Losing and Finding a Job** (2018): For citizens that lose their job, we assess whether it is possible to register as unemployed online; whether information on unemployment benefits and entitlements are available and whether these can be applied for online. Similarly, assistance services for finding a job are assessed, including training programmes.
- **Studying** (2018): For students, we assess the enrolment process in university programmes in the country of origin and abroad; whether application procedures for student loans and other financing schemes are available and if, for students already enrolled, it is possible to track grades online.
- **Family** (2018): For parents, we assess applying for child maintenance allowance online; obtaining parental authority for unmarried partners; requesting a passport or replacement birth certificate, and information on retirement as well as online pension claims.
- **Starting a Small Claims Procedure (2019)**: For citizens involved in an accident, we assess the availability of information and online means to file a legal claim for damage against another natural or legal person. It also includes consideration of online appeal means.
- **Owning and Driving a Car** (2019): For car owners, we assess whether information on vehicle tax, insurance and registration obligations is available online; whether it is possible to verify information on second-hand vehicles in the car register and whether fines and duties relating to the use of a private car can be settled online.
- **Moving** (2019): For families moving into a new place of residence, we assess what online information is available on local schools and amenities; whether it is possible to register the new address in the municipality register online and whether other relevant authorities are notified automatically.

How we Measure it

It's crucial that service assessments are completed without bias, which is why the data to evaluate these Life Events is gathered by “Mystery Shoppers”, who are citizens of each of the countries included in the assessment. Prior to carrying out their assessment, the Mystery Shoppers are trained and briefed on what to observe, and how to assess eGovernment services consistently.

The digital services are scored according to the following top-level benchmarks:

1. **User Centricity** – To what extent are services provided online? How mobile friendly are they? And what online support and feedback mechanisms are in place?
2. **Transparency** – Are public administrations providing clear, openly communicated information about how their services are delivered? Are they transparent about the responsibilities and performance of their public organisations, and the way people's personal data is being processed?
3. **Key Enablers** – What technological enablers are in place for the delivery of eGovernment services?
4. **Cross-Border Mobility** – How easily are citizens from abroad able to access and use the online services?

The Mystery Shopper's job is to act as a prospective user while following a detailed, objective and standardised evaluation checklist provided by the European Commission. Their feedback directly impacts the results of the study outlined in this report. We apply Mystery Shopping consistently for all top-level benchmarks under review, except for the assessments of *Mobile Friendliness* and *Cybersecurity* which we evaluate using automated tools.

The results from the Mystery Shopping assessments are validated by representatives from all participating countries. These representatives are involved in the complete, end-to-end evaluation process; from approving which websites should be studied and identifying key characteristics of services under assessment, to validating the findings and collaborating with relevant public entities and correcting inaccurate findings.

We carry out evaluations on a two-year cycle, allowing each country to take the necessary time to improve their digital service delivery after an assessment.

Because the EU eGovernment Action Plan was adopted for 2016-2020, the methodology for measurement was updated at the beginning of this timeframe. As this precludes historical comparisons for most indicators, this report generally covers the latest biennial results, and the average score achieved over the last two years across all eight of the outlined Life Events.

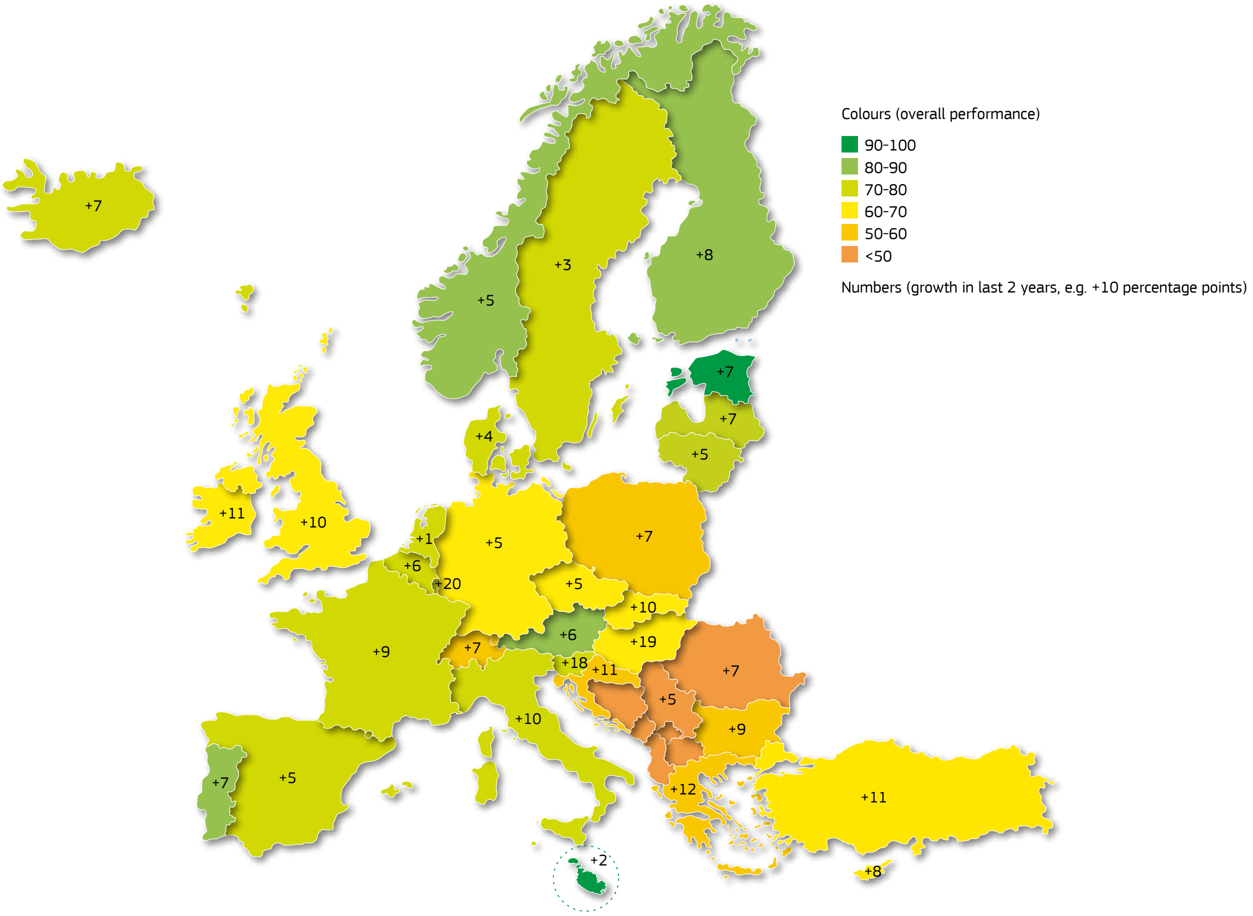
3 Findings

Findings

3.1 Current state-of-play in a nutshell

The average score of the four top-level benchmarks represents the overall eGovernment performance of a country, from 0% to 100%. The EU27+ overall performance stands at 68%. Two years ago, the overall performance sat at 62%. As a general observation, all Member States have progressed in the implementation of eGovernment services.

The European frontrunners in eGovernment are Malta (overall score of 97%), Estonia (92%), Austria (87%) and Latvia (87%). These countries score highest across all four top-level benchmarks, followed closely by Denmark (84%), Lithuania (83%) and Finland (83%). Luxembourg, Hungary and Slovenia have shown the most progress in the last two years, mainly driven by improved *Transparency* and *Key Enablers*. They increased with 20, 19 and 18 percentage points respectively (resulting in corresponding overall scores of 79%, 63% and 72%). Figure 3.1 captures eGovernment performance across Europe.


Colours (overall performance)
🟩 90-100
🟩 80-90
🟨 70-80
🟨 60-70
🟧 50-60
🟧 <50
Numbers (growth in last 2 years, e.g. +10 percentage points)
+7
+5
+3
+8
+7
+7
+5
+4
+11
+10
+1
+5
+7
+6
+20
+5
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+18
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+5
+12
+11
+2
+8

Figure 3.1 Overall country performance (2019 biennial average + growth compared to

User Centricity (highest performance)

Currently, 78% of public services can be completed entirely online, an increase of more than 10% when compared to two years ago, when only 67% were capable on online completion. The eGovernment Benchmark's overall performance is mostly driven by *User Centricity*, showing that this is a priority area for digital public service provision in most European countries. With the increased adoption of one-stop-shop portal websites, users can find the services they are looking for via these portal websites 95% of the time. Information about relevant services is available throughout the board (nearly 98%). This helps users to know how to obtain the service, even if the service cannot be completed fully online. Moreover, almost 9 out of 10 government portals (87%) have feedback forms to collect the experience from users. The overall score for *User Centricity* now stands at 87%, an increase of 4 p.p., when compared to the score from two years ago. We cover this benchmark in more detail in section 3.2.1.

Cross-Border Mobility (lowest performance)

Conversely, the *Cross-Border Mobility* score is the lowest of all four top-level benchmarks, at just 56% (+3 p.p.). Users who want to obtain a service from another European country can do so in 62% of the services for citizens and 76% of the services for businesses. For domestic users these scores for the *Online Availability* indicator are much higher, at 84% and 94% respectively. Countries that score particularly well on both the national and cross-border *Online Availability* indicator are Malta (with a close score of 100% for national and 95% for cross-border), Sweden (92% and 95%), Estonia (98% and 94%), Ireland (88% and 93%), Luxembourg (90% and 91%), Austria (97% and 91%) and the United Kingdom (93% and 91%). Other countries improve mostly their national service delivery and show a bigger gap between national and cross-border services (Turkey scores 91% for national and 46% for cross-border, Greece scores 84% and 42%, and Albania scores 64% and 23%). The gap between national and cross-border online availability is partially due to the fact that there is no fully-operational international network of eIDs. Citizens can only use their national eID solution for 9% (+3 p.p.) of the services in other country. This figure rises to 36% (+18 p.p.) for businesses. However, both figures are much lower than the scores obtained for domestic eID use, which stands at 52% for citizens and 73% for businesses.

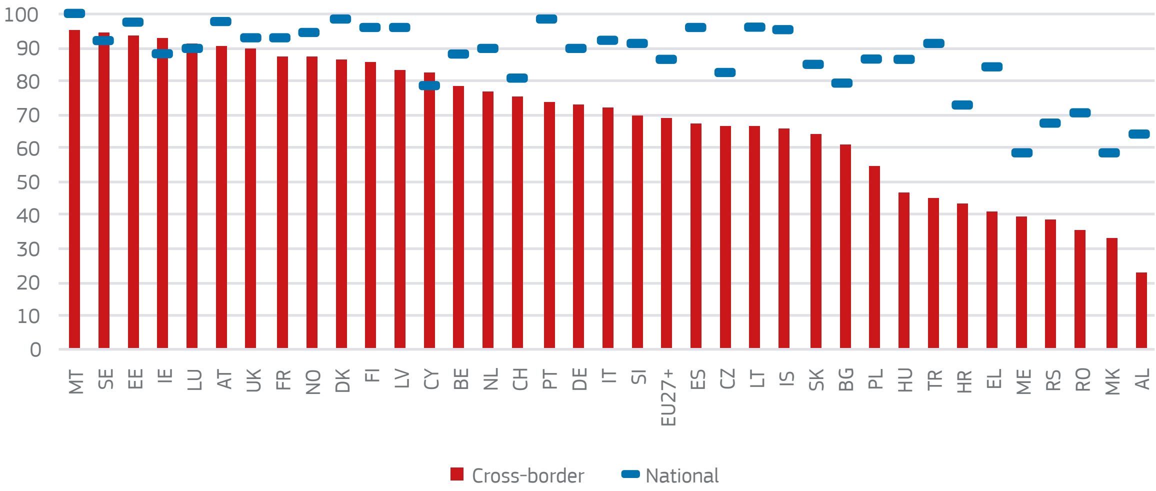

Figure 3.2 Online availability for national and cross-border services

Key Enablers and Transparency (middle performance)

The averages for *Key Enablers* and *Transparency* sit in the middle, at 61% (+3 p.p.) and 66% (+4 p.p.) respectively. Efforts in the field of eGovernment are increasingly paying off, however users are not always informed on how services are delivered and how personal data is being used, while Key Enablers such as eIDs and eDocuments are not commonly adopted, as mentioned above. We discuss *Transparency* in more detail within section 3.2.2, and *Key Enablers* in section 3.2.3.

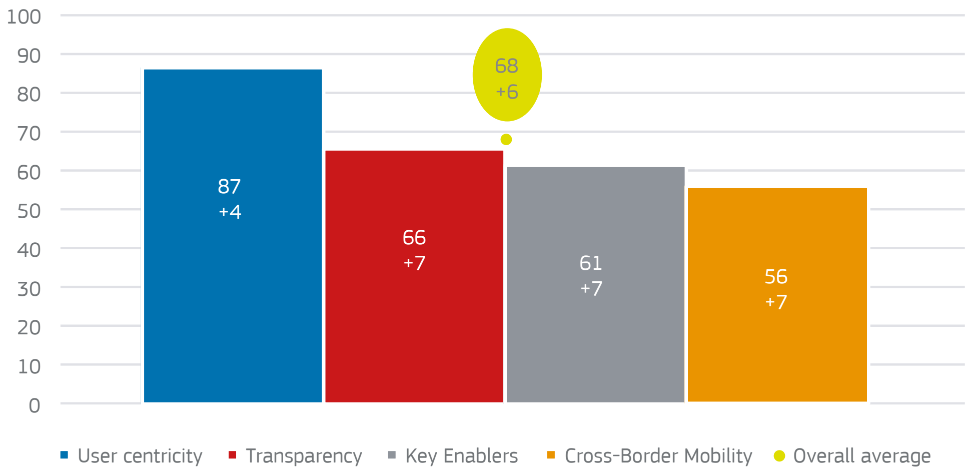

Figure 3.3 Top-level benchmarks (2019 biennial average + growth compared to two years ago)

Which Digital Areas do Countries Prioritise?

For 34 of the 36 European countries, *User Centricity* is the most developed area of their digital government. It is important first to make online services available in a user-centric way, before enhancing *Transparency*, *Key Enablers* and *Cross-border Mobility*. In Malta, *Key Enablers* scores slightly higher than *User Centricity* (100% versus 99%). In Lithuania, *Transparency* stands at 93% and *User Centricity* at 92%.

Although nearly all countries prioritise *User Centricity*, their focus on the other three top-level benchmarks differs:

1. In about half of the countries, the gap between *User Centricity* and *Transparency* is smaller than the gap between *User Centricity* and the other two top-level benchmarks. Albania, Belgium, Bulgaria, Croatia, Czech Republic, Germany, Greece, France, Italy, Lithuania, Montenegro, North Macedonia, Poland, Romania, Serbia and Slovenia seem to focus on *Transparency* next to *User Centricity*. Their eGovernment is user-centric in the first instance and places importance on transparency second.
2. In about one third of the countries, *Key Enablers* is almost at the level of *User Centricity*, while the other two top-level benchmarks sit lower. This is the case in Austria, Denmark, Estonia, Finland, Hungary, Iceland, Latvia, Malta, the Netherlands, Norway, Portugal, Slovakia, Spain and Turkey. These countries integrate digital enablers in the user-centric service they provide online.
3. In one out of six countries, *Cross-Border Mobility* is the second most developed top-level benchmark, after *User Centricity*. These countries not only ensure online availability and usable services for national users, but also prioritise solid service delivery for users that live in other European countries. Cyprus, Luxembourg, Ireland, Sweden, Switzerland and the United Kingdom demonstrate this with relatively strong international digital government.

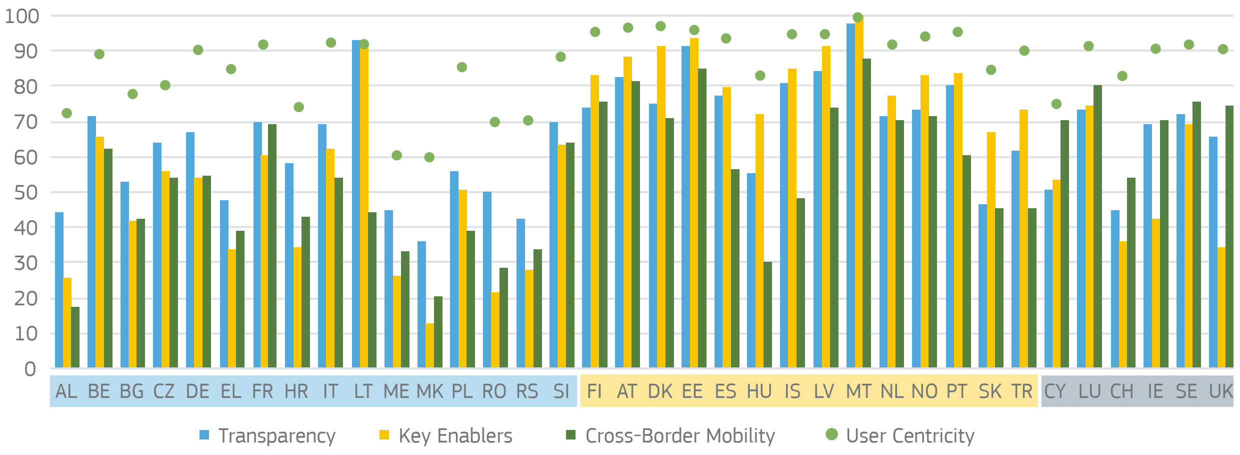

Figure 3.4 User Centricity compared to Transparency, Key Enablers and Cross-Border Mobility

3.2 Key insights from the four top-level measures of eGovernment

3.2.1 User Centricity: a new boost through mobile devices

The User centricity benchmark now stands at 87%, a 4 p.p. increase in the last two years. It relies on three measurements: *Online Availability*, *Usability* and *Mobile Friendliness*. *Online Availability* and *Usability* have scored highly in previous assessment cycles and now score a remarkable 87% and 91% (+3 p.p. each). The most noteworthy change over the last two years, however, has been the improvement in *Mobile Friendliness*, which now stands at 76% (+14 p.p.).

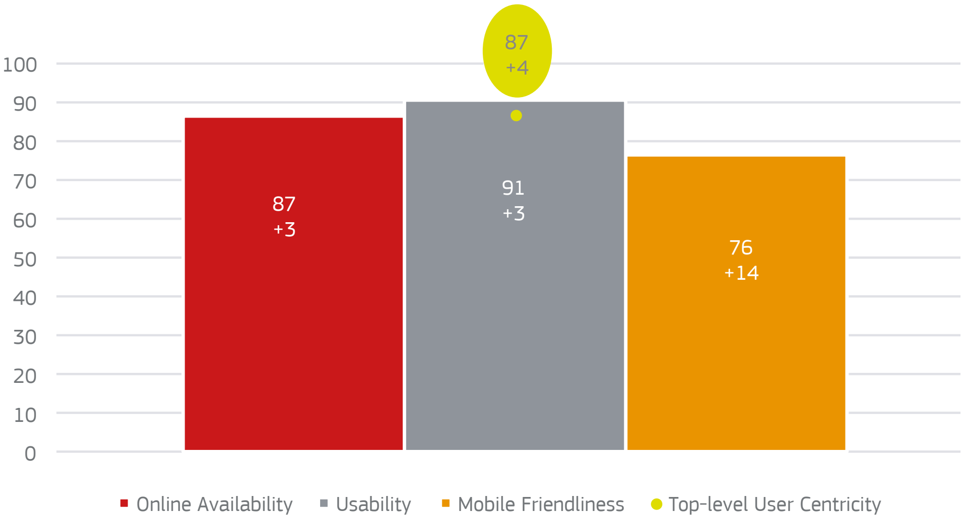

Figure 3.5 User Centricity with sub-indicators (2019 biennial average + growth compared to two years ago)[5]

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[5] Note that overall User Centricity is calculated as a weighted average of the indicators: Online Availability represents 2/3rd, Usability 2/9th and Mobile Friendliness 1/9th.

Currently, 78% of public services can be completed entirely online. This is an increase of more than 10% when compared to two years ago, at which time only 67% were capable of wholly online completion. This means that people can apply for public services anytime, anywhere, and rarely need to visit a government building or print a paper form. Leaders in the area of *Online Availability* are Malta, Portugal, Estonia and Austria, who all hold scores of 97% and above. This means that citizens and businesses within these countries are able to complete virtually all public services online via online forms or through automated service delivery, i.e. the service is proactively handled by the service provider, without the user needing to launch a request.

The high *Usability* average of 91% indicates that not only are services available online, they are also backed up by reliable user support. About 9 out of 10 government portals provided a Frequently Asked Questions section (93%) and have feedback forms to collect the experience from users (87%). Almost 8 out of 10 portals offered live chat support or instructional demos (78%). Impressively, Italy, Malta, the Netherlands, Spain and Turkey have all achieved a 100% score in this indicator.

Moreover, investments in *Mobile Friendliness* have paid off. The technology evolution has allowed governments to adopt responsive design approaches that delivered a more consistent experience across all devices. Despite the increase in the capabilities of mobile devices, the *Mobile Friendliness* average comes out as the lowest of all three categories within *User Centricity*, at 76% across all of the EU27+. This shows that just three quarters of the measured services are suitable for use on a mobile phone. While this is an increase of 14 p.p., there is still room for improvement and eGovernment bodies would benefit from investing in adapting their online pages for mobile devices.

More services available online

There are different levels of public service delivery, ranging from fully offline to fully online:

- From all evaluated services, 2% of the services are completely offline, requiring face-to-face interactions (stable over time).
- Within the EU27+, 20% of the services only provide information online, while the service itself is not available digitally (compared to 32% three years ago).
- Seven out of ten services are fully online and can be reached via a portal website in almost all cases (69%, compared to 63% three years ago).
- 9% of services are now automated: users receive the service proactively, e.g. parents receiving child allowance after registering their new-born child (compared to 4% three years ago).

That being said, there are some countries that are leading in this area, in particular Luxembourg, the United Kingdom and Denmark, who all scored 94% or above. This means that more than 9 out of 10 digital public services are available in mobile friendly format, ultimately making them more accessible to the general public.

3.2.2 Transparency of service delivery ready to take flight

Transparency experienced the biggest improvement, now sitting at 66%, increasing from 59% two years ago. Once again, Malta is leading the way for this benchmark with 97%, closely followed by Lithuania with 93% and Estonia with 91%. The performance variance is substantial: The five best performing countries average 90%, whereas the five countries with the lowest scores average 48% - a 52 p.p. performance gap.

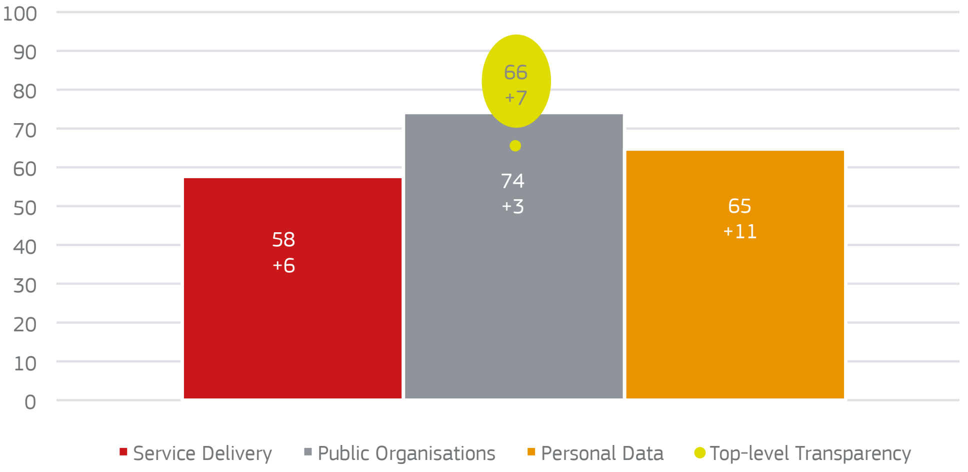

Figure 3.6 Transparency with sub-indicators (2019 biennial average + growth compared to two years ago)

If we break this top-level benchmark down into its three components, the latest results show that *Transparency of Service Delivery* has the lowest average of the three indicators, at just 58%. Fundamentally, this means that in almost half of all cases, users regularly lack information on how services work, what is expected from them, and what to expect from the institutions. While users now receive a delivery notice when a service is completed in 64% of cases (+11 p.p.), for more than half of the services it is still unclear how long it will take to complete an online form. This figure has risen just 3% in two years, from 43% to 46%.

This contrasts with the performance on the *Transparency of Public Organisations* indicator, which stands at 74% overall, ranging from 92% to 60% when the five countries with highest and lowest scores are compared. A remarkable 98% of the websites assessed were reported to be transparent about the organisational structure, mission and responsibilities, access to information, the possibility to request additional information and where to find the corresponding legislation. However, less than half of the public administrations are open about user satisfaction, with little historical progress (now 43%, up from 40% two years ago). More information on service performance would deliver greater accountability. Despite this, a complaint procedure is available in 74% of the cases (a substantial increase from 61% two years ago). This gives citizens the ability to protest whenever personal data is incorrect or incorrectly used by their government.

Finally, *Transparency of Personal Data assesses* whether users have control over their personal data held by governments and whether they are well informed on how their data is being used. Three quarters of the countries (26 out of 36) provide citizens with an online overview informing users on what kind of personal data the government holds on them. Ten of these countries even send proactive notifications whenever new types of personal data are added to the online base registry. The remaining ten countries only provide insight regarding registered personal data via offline channels or do not grant access at all. For the overall *Transparency of Personal Data* indicator, Malta comes out on top with 98%, followed by Iceland with 96% and Lithuania at 93%. Despite these high scores and the recent increase by a remarkable 11 p.p., the EU27+ average actually stands at 65%. This shows there is certainly room for improvement in the area of personal data transparency. Users rightly demand better information in regard to when personal data is used, by whom, and for what purpose.

3.2.3 Key Enablers not yet part of Europe's status quo

As a government service, citizens and businesses expect interactions that are both safe and convenient. The *Key Enablers* top-level benchmark assesses the uptake of four building-block technologies that help to improve the ease-of-use, trustworthiness, and efficiency of eGovernment services. Key Enablers refers to technologies applied to eGovernment services, and analyses how advanced they are. Each enabler is evaluated with a separate indicator: *eID* (electronic identification), *eDocuments* (electronic documents), *Authentic Sources* (prefilling online forms) and *Digital Post* (online government mail/communication solutions). These all carry equal weight in the average score, which stands at 61%, 7 p.p. higher than two years ago.

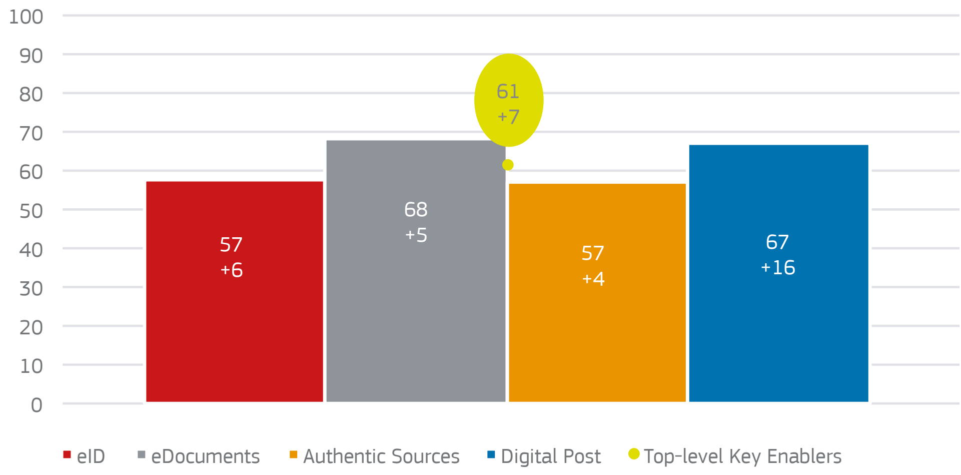

Figure 3.7 Key Enablers with sub-indicators (2019 biennial average + growth compared to two years ago)

The top three countries for this top-level benchmark are Malta (100%), Estonia (93%) and Lithuania (92%), demonstrating that they have put in place the facilitating technologies to accommodate a seamless digital journey for their users. The variance between countries is substantial: The five best performing countries hold an average score of 94%. The five lowest performing countries average just 23% - a substantial 71 p.p. gap. This gap, together with the overall rather modest score of 61%, indicates that most countries do not yet reap the benefits of these enablers.

National *eID* systems are the keys that grant users access to eGovernment services. Under the *Key Enabler* umbrella, the *eID* indicator averages 57% across the 36 countries measured, while Malta, Denmark and Estonia are the star performers with scores of 90% or higher. This means that users of public services within these countries can use their eID for almost all online services that require online identification, and their login remains active, even when switching between different service providers. Moreover, businesses can use their national electronic identification more often than citizens. The *eID* indicator stands at 71% for business services and 53% for citizen services (an 18 p.p. gap). Additional efforts are needed to implement eID solutions across all government organisations and particularly those that provide services to citizens.

The *eDocuments* indicator displays an average of 68% across all of the EU27+. Unsurprisingly, this category is led by the same countries that scored highly for eIDs. Services using eDocuments allow users to upload and download documents in a secure manner, and is a crucial technology for those who are housebound. Again, services obtained by businesses are more often supported by this digital enabler than services obtained by citizens. Business can upload or obtain government documents in 82% of the online services, citizens in only 64% of the cases (another 18 p.p. gap as observed for the eID indicator). If a service does not allow for uploading or obtaining required documents digitally, one has to print and send the files or visit a government office. By implementing electronic documentation solutions, users can carry out the entire service process online.

The *Authentic Sources* indicator, which reflects the extent to which information in online forms is pre-filled, averages 57%. Thus, more than half of the online forms reuse personal data, such as an address and phone number, whenever such information was to be provided by the user. Malta pre-fills information for all assessed online forms requiring personal information. The country collects certain information once, stores it in its registries and pre-populates it whenever it's required as part of online government forms. Estonia and Lithuania also have a strong system of *Authentic Sources* and pre-fill data in about 9 out of 10 services. When entrepreneurs start or run a regular business, they will find pre-filled data in 70% of the forms they need to complete. When citizens move, register for unemployment benefits or fill in other citizen related service forms, only 53% of these contain pre-populated information. The more governments re-use and pre-fill information already obtained, the easier and faster it will be for users to complete online applications.

On a positive note, *Digital Post* capabilities experienced a fairly dramatic step change. Today, two thirds (67%) of government organisations allow their users to receive letters via email rather than post. Two years ago, only half (51%) of the administrations deployed a *Digital Post* solution. Impressively, ten countries have now implemented a digital post-box across all eight Life Events (compared to just three countries two years ago). Thus, Austria, Denmark, Estonia, Hungary, Iceland, Latvia, Lithuania, Luxembourg, Malta and Slovakia attain a score of 100%. Interestingly, 72% of the public administrations that focus on helping businesses have a *Digital Post* solution. This is slightly more than the 66% of government organisations that provide services to citizens (this 6 p.p. gap is the narrowest of the four *Key Enablers*). Changing to email enables users to receive information faster and in a more convenient format. It also helps to reduce the amount of paper and ensures public organisations become more sustainable.

3.2.4 Uptake of foreign eIDs holds the key to realising Cross-border Mobility

Cross-border Mobility reflects the extent to which public services are available to foreign citizens and businesses and is measured in six out of the eight Life Events on which the other benchmarks are based. These Life Events are *Studying* (evaluated in 2018), *Moving* (2019), *Owning and Driving a Car* (2019), *Starting a Small Claims Procedure* (2019), *Business Start-Up* (2018) and *Regular Business Operations* (2019). The split between citizen and business Life Events is especially relevant due to the differences in scores, as shown in Figure 3.8. Citizens can use their own national eID solution for only 9% of the services from other countries, an increase of just 3% in the last two years. For businesses this number jumps to 36% (compared to 18% two years ago).

The *Cross-Border Mobility* benchmark includes four indicators: *Online Availability*, *Usability*, *eID* and *eDocuments*. These indicators measure whether or not services are available online, if they are usable and if *Key Enablers* like eID and eDocuments work for foreigners.[6]

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[6] Note that the evaluations for the indicators are not directly comparable to their national counterpart, e.g. the national Usability evaluation includes seven scoring items where the cross-border evaluation includes three.

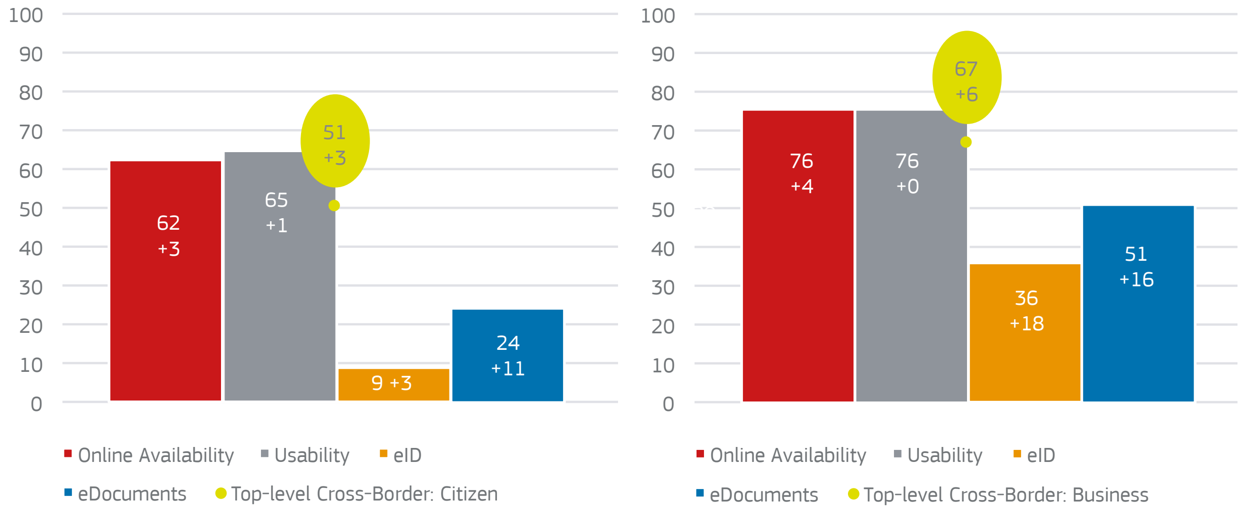

Figure 3.8 Cross-border Mobility for citizens and businesses with sub-indicators (2019 biennial average + growth compared to two years ago)

On a positive note, scores on the whole for *Usability* are reasonably high, both for citizens (62%) and businesses (76%) requiring public services abroad. This indicator measures whether, and to what extent, specific information and support features targeted at foreign users are provided. For services targeted at businesses, 14 countries received a score of 100%. For citizen services the performance is flawless in five countries.

The services that are available may be rather user-friendly, to local and foreign users alike. The number of services that can be completed by users from other countries is also moderate. Less than two in three (62%) services are actually available online for foreign citizens. This *Online Availability* score rises to 76% for businesses operating across borders. This means that it is easier to own and run a business in a foreign country than it is to access public services, such as passport or university applications, as a foreign citizen.

On the same *Online Availability* indicator, Malta (100%), Sweden (99%) and Austria (92%) are the most accessible for foreign citizens, while Estonia, Ireland and Denmark (all 100%) are the most accommodating to businesses from other European countries.

Countries' performance for *Online Availability* is closely related to their performance against the *Cross-Border eID* indicator. Those countries that score highly on *Online Availability* do so because they have adopted procedures that validate foreign eIDs within their eGovernment.

Cross-Border eID is clearly one of Europe's key areas for growth. Even in top performing countries, such as Malta and Austria, non-nationals are able to use their own eID in just four out of ten services. To unleash the full potential of cross-border services, it is important to ensure that national eID schemes are mutually recognised by all European countries.

Also for businesses, *eIDs* from other countries are not yet commonly accepted, although in Albania, Austria and Latvia more than 90% of the business services considered are accessible with *Cross-Border eIDs* (in cases where identification was required).

eDocuments are another critical factor for facilitating *Cross-Border Mobility* – in particular for those who are trying to apply to study, work or move abroad. The *eDocuments* indicator considers whether users can upload their qualifications, proof of employment, company registration and similar documents within the online services accessed. It also considers whether they are able to receive documentation that they need as part of the process. In this domain, Finland, France and Luxembourg are the most advanced when it comes to citizen services. In these countries, non-nationals can upload or obtain official government documents digitally in 80%, 58% and 56% of the service processes. For businesses operating cross-border, Albania, Cyprus, Malta, Portugal, Sweden and the United Kingdom reached 100% on the *eDocuments* indicator, meaning foreign businesses can provide and obtain documents online and therefore trade internationally with relative ease. These findings show a significant gap between services available abroad for businesses, versus services available abroad for foreign citizens.

3.2.5 Securing websites to gain user trust

Today, cybersecurity is an increasingly serious concern for citizens and business. This is particularly true given the internationally reported rise in online crime driven by the COVID-19 pandemic. When users visit government websites, they must be able to trust that the websites they visit are indeed owned by government authorities. As personal data is often needed for public services, it is essential that citizens and businesses can provide these personal details in a secure environment to their public administrations, without the fear of malicious third parties accessing their sensitive data. Thus, cybersecurity is key.

To secure public sector websites, structures in the back-end need to be robust, while front-end technologies need to be up to date. As part of a pilot, the URLs included in the Mystery Shopping have been tested using two openly available security testing tools: the Internet.nl Test[7] and the Mozilla Observatory[8]. Both Internet.nl and Mozilla Observatory are platforms dedicated to increasing website security, reliability and usability, and each tool has its own testing criteria to establish whether these criteria are being met.

Figure 3.9 provides the test results from the Internet.nl and Mozilla tools, which shows room for improvement. There are three assessment items that are tested for Internet.nl (IPv6, DNSSEC and HTTPS), and eleven for Mozilla Observatory (Content Security Policy, Cookies, Cross-Origin Resource Sharing, HTTP Public Key Pinning, HTTP Strict Transport Security, Redirection, Referrer Policy, Subresource Integrity, X-Content-Type-Options, X-Frame-Options, X-XXS-Protection).

The three Internet.nl assessment items are met by only 9% (IPv6), 10% (DNSSEC) and 11% (HTTPS) of the websites studied as part of the eGovernment Benchmark assessment. This means that only a small minority of evaluated websites conform to modern internet standards and protocols such as “IPv6” (modern address), “DNSSEC” (domain signature) and “HTTPS” (secure web connection).

The results from the Mozilla tool are a little more varied. Six out of eleven criteria are met by over one third of the websites. Although we do see some drop in “Referrer Policy” and “Sub resource Integrity” (SRI) compared to last year, ultimately compliance with these indicators is not low, at 69% and 43% respectively. Moreover, 70% of the evaluated websites performed well on “Cross-Origin Resource Sharing” and “HTTP Public Key Pinning”.

What this means for users is that in most cases eGovernment websites protect their privacy: foreign websites are blocked from reading site content; websites are protected against the unauthorised issuance of certificates; and scripts cannot be maliciously modified.

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[7] This tool is an initiative of the Dutch national government’s Internet Standards Platform: www.internet.nl.

[8] Mozilla security Tool: https://observatory.mozilla.org/.

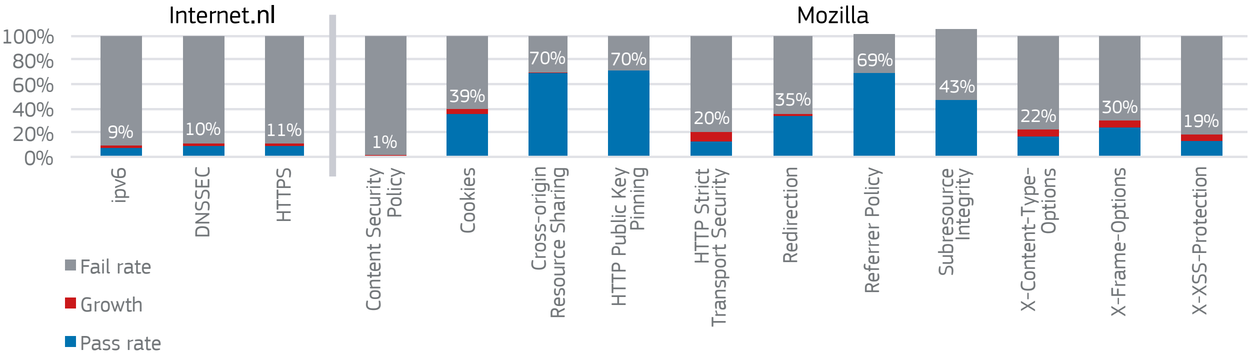

Figure 3.9 Percentage of websites passing the Internet.nl and Mozilla Observatory tests (2019 biennial average, + growth compared to last year)

From the perspective of individual URLs, no website passes every test presented by the two tools. Just 17 websites (less than 1% of the assessed URLs) pass all 3 Internet.nl security items, while only 9 websites check all 11 Mozilla Observatory boxes. As displayed in Figure 3.10, only 20% of all URLs meet half or more of the security aspects, and the majority of websites implemented between 4 and 7 of the security aspects, showing definitive room for improvement. The modern internet standards and protocols IPv6, DNSSEC and HTTPS, as well as Content Security Policy deserve the most attention.

It should be noted that these tests provide an indicative understanding, rather than attempting to conclusively or comprehensively assess cybersecurity aspects. Positive results do not guarantee a secure website, just as negative results do not necessarily imply that a website is unsafe. Although false negatives are not likely to occur, undetected alternative cybersecurity solutions may have been implemented. For example, some websites may still rely on a secured web connection, even when not complying with the HTTPS standards. The results do point out, however, that regardless of the Life Event, ongoing efforts are needed to improve the security of public administration websites. It is the duty of eGovernment to continuously strive to improve cybersecurity for online users.

How Can Public Authorities Improve on Cybersecurity?

Public authorities should take advantage of the open source testing tools used within the eGovernment Benchmark assessment and implement follow-up measures. These can include securing proper procurement to ensure security by design, and prioritising budgets accordingly to invest more heavily in a sophisticated cybersecurity plan.

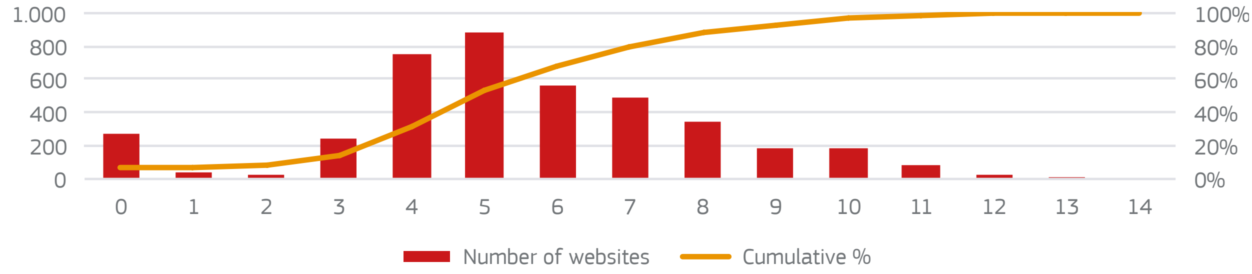

Figure 3.10 Number of security tests passes by individual websites (2019 biennial average)

3.3 Digital Economy and Society Index (DESI)

The services under review in the eGovernment Benchmark have an impact on the daily lives of citizens and businesses, and the way in which they interact with their respective governments. Because of this, the insights and results from the eGovernment Benchmark feed into the European Commission's Digital Economy and Society Index (DESI)[9], which is the main tool used by Europe and its Member States to measure digitalisation. The composite index consists of five key areas: *Connectivity*, *Human Capital*, *Use of Internet*, *Integration of Digital Technology* and *Digital Public Services*.

Given the results of the eGovernment Benchmark deal directly with the distribution of public services online, it relates heavily to the fifth area of the DESI; *Digital Public Services*. Three indicators of the Digital Public Services dimension are calculated on the basis of the eGovernment Benchmark results:

- **Pre-filled forms (DESI 5a2)**: this indicator captures the degree to which data that is already known to the public administration via pre-filled forms that are offered to the user. This is based on the biennial average for the *Authentic Sources* indicator of the eGovernment Benchmark.
- **Online service completion (DESI 5a3)**: this indicator captures the degree to which the various steps in dealing with the public administration can be done completely online. This links to the biennial average for the *Online Availability* indicator of the eGovernment Benchmark.
- **Digital public services for businesses (DESI 5a4)**: this indicator captures the extent to which public services for businesses are interoperable cross-border. It is calculated as the average of the national and cross-border online availability for basic services within the business-related Life Events from the last two years (*Business Start-up* and *Regular Business Operations*).

Figure 3.11 shows the results of the *Online Service Completion* indicator. The average score for the EU27+ is 89.5%, with Malta as a leader with 100%, followed by Denmark and Portugal with 98.6%, and Estonia with 97.9%. This means that all or nearly all of the digital service processes can be completed online in these countries, allowing users to fulfil the majority of their government requests digitally and positioning eGovernment administrations as future-facing organisations.

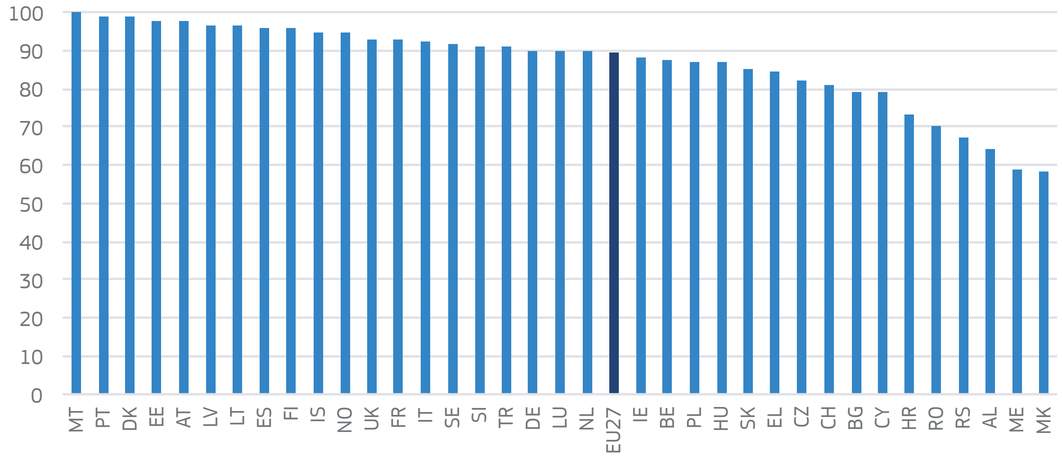

Figure 3.11 Online service completion (2019 biennial average)

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[9] European Commission Digital Economy and Society Index. More information available at: https://ec.europa.eu/digital-single-market/en/desi.

Figure 3.12 displays the scores for the *Digital Public Services for Businesses* indicator, combining the eGovernment Benchmark results of *Online Availability* for basic services, both nationally and across borders. The EU27+ average stands at 87.3%, and the highest performing countries in this area are Denmark and Estonia with 100%, closely followed by Ireland and Luxembourg with 99%. Interestingly, these countries scored higher in this area than they did for the *Online Service Completion* indicator, especially Ireland and Luxembourg, and shows that services for starting a business and handling or declaring corporate taxes and VAT are particularly advanced in these countries.

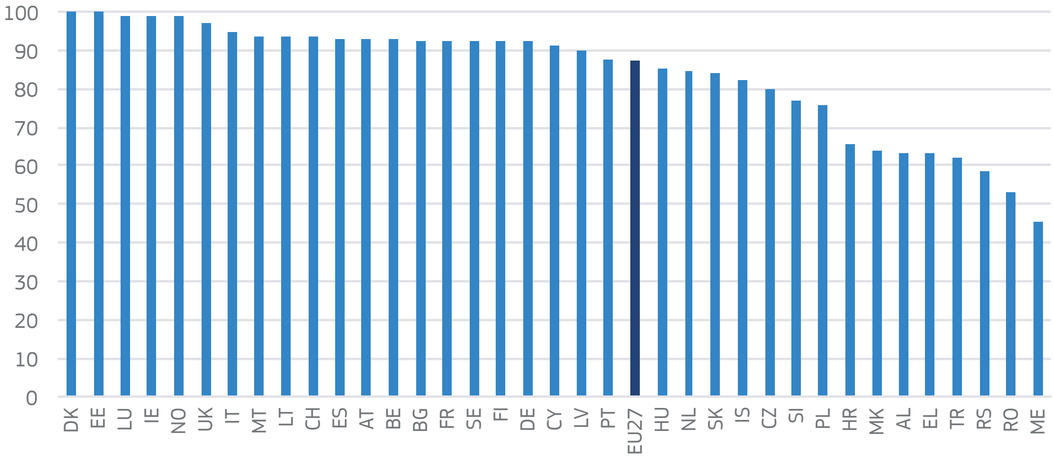

Figure 3.12 Digital public services for businesses (2019 biennial average)

Figure 3.13 shows the results for the *Pre-filled Forms* indicator, with an EU27+ average of 56.9%. Malta is quite significantly in the lead with 100%, followed by Estonia with 89.6% and Lithuania with 88.3%. In these countries, all (or nearly all) online forms that require personal information are pre-filled with the user's personal data. From a user perspective this is really helpful, as it reduces the chances of errors and improves the process of completing online forms.

In this area there are quite substantial differences between countries, which correlate to the levels of eID implementation. This is because eIDs contain a more sophisticated and comprehensive data set than standard user profiles and can more effectively pull data from base registries.

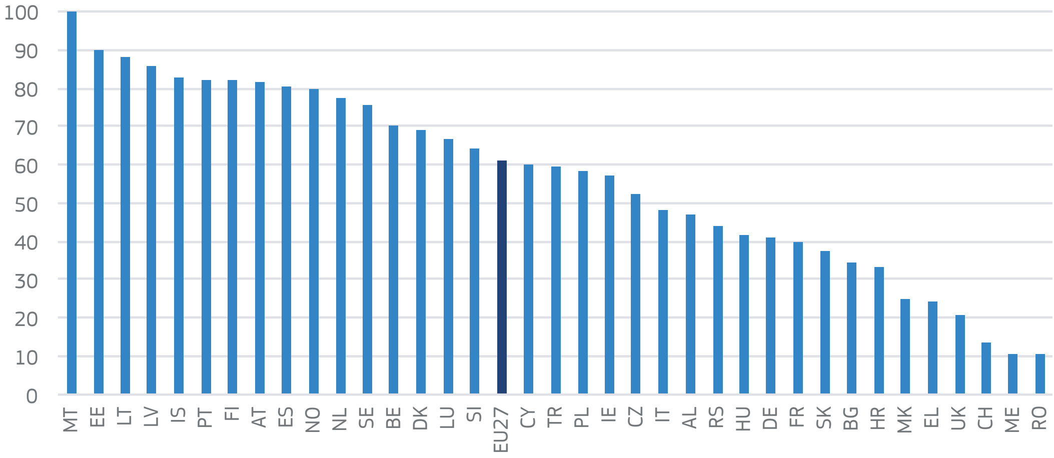

Figure 3.13 Pre-filled forms (2019 biennial average)

3.4 eGovernment Action Plan 2016-20: Performance on key principles

The digital transformation of government services is a key element in determining the success of the Digital Single Market - the EU strategy aiming to provide efficient access to the online world for both citizens and businesses. The Digital Single Market aims to remove existing digital barriers, reduce administrative burdens, and improve the quality of interactions with governments for all European citizens.

In order to achieve this goal, the eGovernment Action Plan 2016-2020[10] proposed an ambitious vision to make public administrations and public institutions in the European Union open, efficient and inclusive. The goal was that local, regional and national governments became capable of providing borderless, personalised, user-friendly and end-to-end digital public services to all citizens and businesses within the EU. The Tallinn Ministerial Declaration on eGovernment[11] (signed in Tallinn in 2017) reaffirmed this ambition of Member States and EFTA states and demonstrated continued commitment to the acceleration and modernisation of the public sector.

This year, the eGovernment Action Plan 2016-2020 comes to an end. This marks an appropriate time to have a closer look at eGovernment across Europe and to analyse the principles of the eGovernment Action Plan from the perspective of the eGovernment benchmark exercise. Based only on the results of the eGovernment benchmark, this section will describe to what extent the results of the eGovernment benchmark can contribute to understanding the state of play surrounding the implementation of the principles of the eGovernment Action Plan. This section will also, based only on the indicators of the eGovernment Benchmark, suggest areas for improvement and action to be taken as we look ahead to future.

The eGovernment Action Plan 2016-2020 set out seven principles, which were subsequently endorsed by the Tallinn Declaration of 2017:

1. **Digital by Default**: public administrations should deliver services digitally (including machine readable information) as the preferred option, while still keeping other channels open for those who are disconnected by choice or necessity. In addition, public services should be delivered through a single contact point or a one-stop-shop and via different channels.
2. **Once Only Principle**: public administrations should ensure that citizens and businesses supply the same information only once. Public administration offices take action, if permitted, to internally re-use this data, in due respect of data protection rules, so that no additional burden falls on citizens and businesses.
3. **Inclusiveness and Accessibility**: public administrations should design digital public services that are inclusive by default and cater for different needs such as those of the elderly and people with disabilities.
4. **Openness and Transparency**: public administrations should share information and data between themselves and enable citizens and businesses to access, control and correct their own data. They should also enable users to monitor administrative processes that involve them and engage with and open up to stakeholders (such as businesses, researchers and non-profit organisations) in the design and delivery of services.
5. **Cross-Border by Default**: public administrations should make relevant digital public services available across borders to prevent further fragmentation, thereby facilitating increased mobility within the Single Market.
6. **Interoperability by Default**: public services should be designed to work seamlessly across the Single Market and across organisational silos, relying on the free movement of data and digital services within the European Union.
7. **Trustworthiness and Security**: All initiatives should go beyond the mere compliance with the legal framework on personal data protection and privacy, and IT security, by integrating those elements in the design phase. These are important pre-conditions for increasing trust in and the uptake of digital services.

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[10] Online here: https://ec.europa.eu/digital-single-market/en/european-egovernment-action-plan-2016-2020

[11] Online here: https://ec.europa.eu/digital-single-market/en/news/ministerial-declaration-egovernment-tallinn-declaration

Digital by Default: The eGovernment Benchmark results show high levels of availability for online services across Europe. 78% of public services can be completed entirely online, an increase of more than 10% when compared to two years ago, at which time the number stood at 67%. In addition, the digital by default principle recommends public services to be delivered through a one-stop-shop and via different channels. This aspect is well-embedded. Users can find the services they are looking for via such portal websites 95% of the time. An area that should receive more attention is the implementation of automated services. Just 9% of services are delivered to users without having to request it, for example automatically receiving child allowance from the social security bank after registering a birth. Another relevant indicator for this principle is the **Digital Post** key enabler, which determines whether or not users can opt to only receive digital post rather than paper communications with government administrations. The results show that 10 countries (up from just 2 two years ago) offer this across all Life Events: Austria, Denmark, Estonia, Hungary, Iceland, Latvia, Lithuania, Luxembourg, Malta and Slovakia. Within the remaining countries the choice for paperless communication is less common at the local government level, and often not available for *Owning and Driving a Car*, *Starting a Small Claims Procedure* and *Moving*.

In summary, based on the eGovernment Benchmark indicators we can say that European countries have endorsed and improved their performance for those indicators that touch upon the “Digital by Default” principle. Governments have made 78% of public services available online, often through one-stop-shop portals (95% of the time). The next step would be to widen the use of digital communication channels and to provide services pro-actively – saving citizens and public administrations time and effort.

Once Only Principle: The “Once Only” principle aims to ensure that citizens and businesses do not need to supply the same information repeatedly to public administrations. The eGovernment Benchmark looks into whether forms are pre-filled, which is one of many indicators of the Once Only Principle. The eGovernment Benchmark shows that the adoption of pre-filled forms with personal data has increased by 4 p.p. (from 53% to 57% the last two years), and is now supported by three out of every five online public service forms. In 2017 and 2018, a pilot conducted in the context of the eGovernment Benchmark researched how many text fields in total users needed to complete. The study revealed that although personal data is increasingly pre-filled, there are clear differences between countries regarding the amount of additional pre-filled data. This predominantly concerned unique data fields, and data that could have been re-used along the chain of public entities involved in a Life Event. Given that more forms are pre-filled (from 53% to 57%), this could be an indication that Member States are improving their performance on the Once Only Principle.

To better implement the Once Only Principle, countries should investigate how they can share data more effectively, so they can re-use this data and pre-fill online forms. If they succeed, users no longer have to provide personal information already known by any government organisation.

Inclusiveness and Accessibility: The principles of inclusiveness and accessibility are not directly measured by the benchmark exercise. However, relevant results within inclusiveness and accessibility concern access to online complaint and feedback procedures. Complaints and feedback features can come into play when users need help and guidance. A person with limited digital skills may want to request help, share feedback or file a complaint to make the website more inclusive. Complaint procedures related to specific service domains are readily available online in 9 out of 10 cases (90%, an increase of 6 p.p. in the last two years). 87% of the government portals have feedback forms (an increase of 2 p.p. in comparison to two years ago).

Openness and Transparency: In an increasingly digital world where data re-use by government is on the rise, it is essential that citizens are informed about how their information is stored and used. It is also crucial to allow them access to their data, and the right to request that it is corrected or deleted (where appropriate). With regard to personal data, the EU27+ as a whole improved the availability of specific complaint procedures for personal data misuse, now present for three quarters of the government portals (74%, an increase of 11 p.p. in the last two years). Ten countries proactively inform citizens on the use of their personal data. Users are proactively informed on which data is being held about them, for instance, by sending a notification when new types of personal data are added to the online base registry. 16 countries provide citizens and businesses with personal data on demand. In these countries, users can find an overview of the registered data online, for example via a personal data page. The remaining ten countries only provide information via offline channels or do not grant access at all. While proactive notifications for changes to personal data in government registries are not yet common, personal data is available more often on demand, with the latest data collection showing a 28% improvement in this area when compared to two years ago.

This principle also addresses the use of digital means to empower citizens and businesses to voice their views. This is an important factor, as it allows policy makers to collect new ideas and involve citizens in the creation of public services to provide more efficient, user-centric digital support. The indicator *Transparency of Public Organisations* reveals that while the policy making processes are often transparently described online (90% compared to 87% two years ago) only 48% (43% two years ago) of cases describe how citizens can participate in these policy processes. Similarly, only 47% (40% two years ago) of public administrations provide information on the monitoring methods they use to track performance. 43% (also at 40% two years ago) provide the results of these performance measurements by sharing the results of user satisfaction surveys.

As a result, while public bodies are increasingly transparent in their processes, a genuinely “open” culture that welcomes citizen input and feedback is not in place yet. Also, even though improvements have been made regarding personal data, significant work is still needed in this field. Currently 10 countries provide information via offline channels or do not grant access at all to personal data.

Cross-Border by Default: 62% of the services targeted at citizens can be completed by foreign users; for businesses this score rises to 76% (an increase of 59% and 72% respectively in the last two years). This means cross-border service provision is not yet the default. A major hurdle is the acceptance of national eIDs across European borders. Citizens can use their national eID solution for only 9% of the services from other countries, while business can use their national eIDs for 36% of services offered abroad. This is disappointing when compared to national users, who can access domestic services with national eIDs in 52% of cases for citizen services and 73% cases in business scenarios.

In conclusion, services are still not available to cross-border users at the same level as domestic users. One of the main obstacles to cross-border availability of services is a reluctance to accommodate foreign national eIDs in procedures where identification is required.

Interoperability by Default: this principle is not covered by the current measurement. The eGovernment Benchmark focuses on processes that are visible to the end users. Often, users have an outsider’s perspective and cannot identify the interoperability measures taken.

Trustworthiness and Security: In regard to security, a pilot has been performed to better understand the ‘cybersecurity hygiene’ of public websites. Over the past two years, the results have shown that very little progress being made in this area, with only a few websites passing the tests. This can result in a lack of trust that websites are indeed owned by government authorities, meaning

> users question their authenticity and look for alternative options. This could be a potential barrier to the uptake of eGovernment services, especially since cyber-incidents continue to increase, as has been observed since the COVID-19 outbreak with its subsequent move to remote working.
>
> Trust and security are therefore important concerns that have not yet been sufficiently addressed by public authorities when offering services online.

Although the eGovernment Benchmark only partially covers the eGovernment Action Plan principles, we can use some preliminary insights to shed light on progress. As far as the data is concerned, the eGovernment Benchmark findings indicate that governments have embraced the *Digital by Default* principle most broadly. 78% of public services can be completed entirely online. When analysing the *Inclusiveness* and *Accessibility* from the perspective of feedback and complaint procedures, it stands that 90% of the websites offer a complaint procedure to resolve issues, regarding inclusion or other concerns. The eGovernment Benchmark also hints at progress made on the *Openness* and *Transparency* principle. 90% of public administrations transparently describe policy making processes. However, significant efforts in transparent personal data management are still required to realise the full potential of this eGovernment Action Plan principle (the *Transparency of Personal Data* indicator sits at 65%). The *Once Only*, *Cross-Border by Default,* and *Trustworthiness and Security* principles are least visible based on the featured eGovernment Benchmark data. To improve these aspects in the future, governments would need to make pre-filled forms the default (currently at 57%). They should also ensure eIDs from other European countries can be used to obtain cross-border services (currently at 9% for citizens and 36% for businesses) and strengthen the cybersecurity measures of their government websites.

4 Analysis – Key Actionable Insights from the Study

Navigating Europe’s eGovernment Performance

User centricity

	2013	2017*	2019
Online Availability of services	72	84	87
Usability of portals	77	88	91
Mobile Friendliness		62	76

Transparency

	2013	2017*	2019
Transparency of service delivery	39	52	58
Transparency of public organisations		71	74
Transparency of personal data		54	65

Cross-border mobility

	2013	2017*	2019
Cross-border availability	42	63	67
Cross border usability		68	69
Cross-border eID		10	18
Cross-border eDocuments		20	33

Key enablers

	2013	2017*	2019
eID (electronic identification)		51	57
eDocuments (electronic documents)		63	68
Authentic Sources	48	53	57
Digital Post		51	67

*In 2016 the method was revised. For some indicators only the data from 2017 and onwards is included to ensure comparability.

Major accomplishments

User centricity:

- eGovernment services are widely available across Europe
- Online support & help functionalities are omnipresent on European websites
- Government websites are become increasingly mobile friendly

Transparency:

- Governments are improving online access to personal data; full transparency for users on when, why and by whom their data is used needs attention.
- Public organisations are transparent about their mission and responsibility, yet could do more to increase citizen's participation in policy making processes

Cross-border mobility:

- Services are increasingly online available for non-nationals
- Users would like to be able to use their national eID's in other countries

Key enablers:

- Adoption of key enablers is slowly increasing; full adoption would provide governments the platform to accelerate user centricity, transparency and cross-border services
- Cross-EU implementation of eID would help to bring more services and functionalities online in a trusted way

What's next?

- New technologies such as AI and chatbots can enable government to deliver support, information and services increasingly pro-active and in simplified ways; hence better facilitating the use of mobile devices for these purposes

- Machine learning algorithms will provide users with accurate estimations for the duration of the service delivery

- Seamless and interoperable services allow citizens and businesses access to user-friendly online services in other countries, delivering on the potential of a Digital Single Market

- Big data and cloud solutions enable governments to federate data sources to pre-fill, simplify and automate the filling in of forms to increase efficiency of eGovernment services

Analysis – Key Actionable Insights from the Study

4.1 Harmonising the performance of top and bottom countries

Overall, the gap between the frontrunners and laggards is narrowing. This is predominantly due to the lower performing countries catching up. The five top performers now score 89% on average, while the five lowest performing countries stand at 54%. This current gap of 35% is a substantial reduction to the gap of 50% two years ago, when the frontrunners averaged 85% and the lowest performing countries averaged 35% (see Figure 4.1).

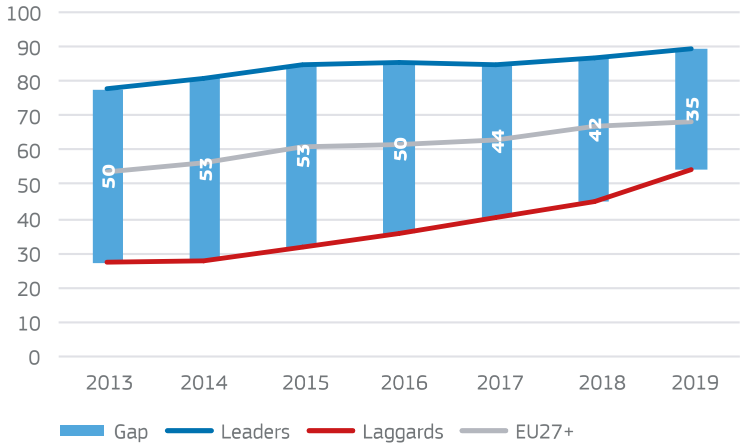

Figure 4.1 Progress on eGovernment across Europe[12]

For the *User Centricity* top-level benchmark, the gap has narrowed to 19 p.p. The gaps are more persistent in the areas of *Transparency* (42 p.p.) and *Cross-border Mobility* (49 p.p.). The five top performers and bottom performers are most divided for *Key Enablers* (a gap of 58 p.p.). More specifically, countries are catching up on building services with user support and feedback channels (the gap now stands at 20 p.p.), the online availability of services (also 20 p.p.) and transparency of public organisations (gap of 32 p.p.). However, in the areas of pre-filling online forms with authentic sources and implementing eIDs nationally there is a gap of 64 p.p. and 61 p.p. respectively, showing that progress has not yet been substantial enough to narrow these varying scores (this is compared to gaps of 64 p.p. and 68 p.p. two years ago).

4.2 Local services catching up with national and regional services

In general, services delivered by national administrations are more often available online than services delivered on a regional and local level. On a national level, service information is more often present online, and users can commonly complete services via government portals or one-stop-shops, with many service processes able to be completed digitally.

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[12] Leaders and Laggards represent the average of the top and bottom five countries with regards to respective biennial average. More recently introduced Macedonia, Albania and Montenegro are excluded from this analysis.

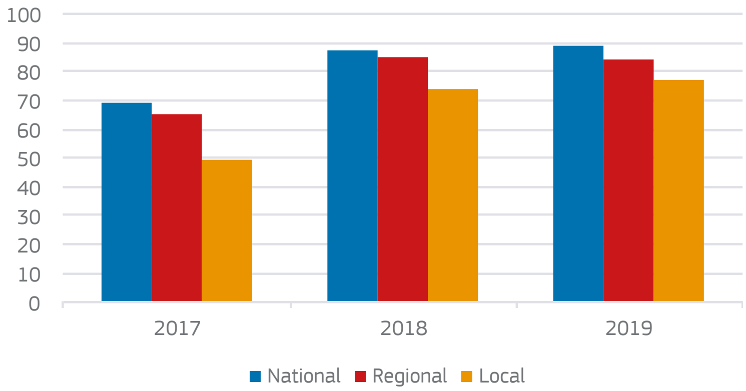

Figure 4.2 Online availability per government level (2017, 2018 and 2019 biennial averages)

That being said, the gap between services provided by national government organisations and regional ones is relatively small and stable over time (4%, 2% and 5% for 2017, 2018 and 2019 respectively). A larger difference is seen between the online availability of national and regional administrations when compared to local administrations. These are most visible in Albania, Czech Republic, and Luxembourg, where national administrations perform 37%, 30% and 27% better than local administrations respectively. Nevertheless, the service gap between the various governmental levels is decreasing over time. For the Life Events measured two years ago, the local administrations were 20% behind the national services, whereas this gap was reduced to 13% and 12% most recently. In fact, two years ago, 12 countries had a performance gap of 25 p.p. or more between their national and local service provision. This number has since decreased to only five countries.

The difference between national and local services is also visible when comparing the Life Events, such as *Family* and *Regular Business Operations*. Most family services, related to marriage and registering a birth, are provided by municipalities and other local administrations. The *Online Availability* indicator stands at 77% for this Life Event. Services for business taxation are mostly provided by national agencies, such as the Tax Agency or Ministry of Finance. For this Life Event, *Online Availability* reaches an impressive score of 96%. Entrepreneurs can complete nearly all of these business services digitally.

For some countries, this general trend does not apply. In Malta both national and local levels are 100% available online. Interestingly, in Cyprus local services score 20% higher than national services, and in Croatia and North Macedonia regional services score 14% and 11% higher than national services, demonstrating a strong investment within local and regional online services.

4.3 Service differences between national and foreign users

An interesting comparison can be made between cross-border service delivery and national service delivery. In Figure 4.3, we compare the online availability for national and cross-border services. As expected, most countries score higher on national service delivery than cross-border. The average of the EU27+ for national online availability is 87% and for cross-border online availability 69%. These differences are particularly visible in Turkey which scores 91% for national and just 46% for cross-border, Greece at 84% for national versus 42% for cross-border and Albania with 64% versus 23%.

It is generally observed that countries that perform better on national service delivery tend to stand out from a cross-border perspective as well. However, notable countries that score particularly well on both the national and cross-border evaluation are Malta, with a close score of 100% for national delivery and 95% for cross-border, Sweden (92% and 95%), Estonia (98%

and 94%), Ireland (88% and 93%), Luxembourg (90% and 91%), Austria (97% and 91%) and the United Kingdom (93% and 91%). It is interesting to note that Sweden, Ireland, Luxembourg, and Cyprus score higher on cross-border service delivery (between 1 p.p. and 5 p.p. higher) than on national service delivery.

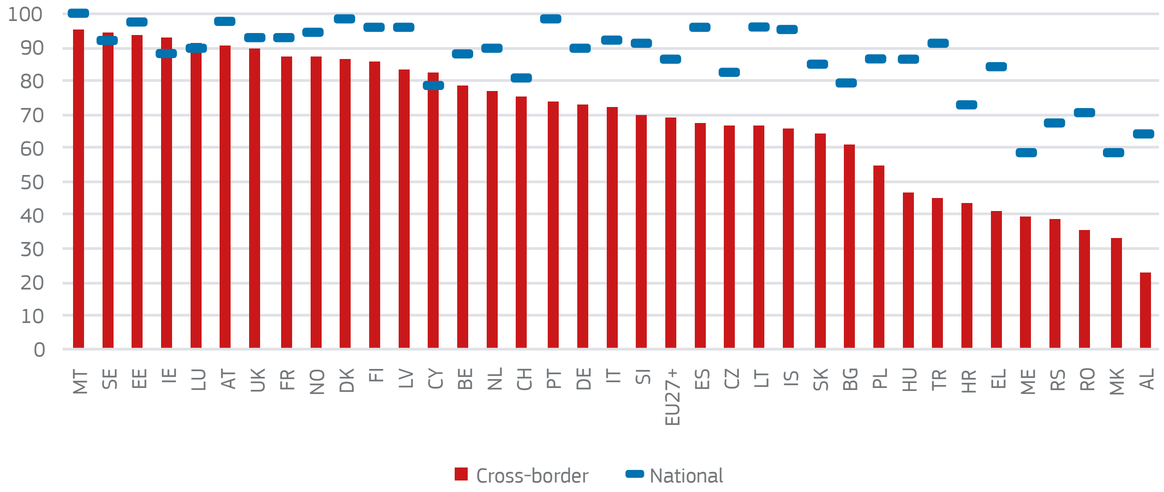

Figure 4.3 Online availability for national and cross-border services

While the availability of online services for foreign users is improving, progress in this area is far too slow. The *Cross-Border Online Availability* indicator reached 69%, whereas the *Online Availability* indicator for national users reached 87%. This 18 p.p. gap compares to a 20 p.p. gap two years ago. Primarily this is because in the procedures where identification is required, foreign eIDs are not accepted. Citizens can use their own national eID solution for only 9% (6% two years ago) of the services from other countries which require and accept domestic eIDs. This barrier is followed by documentation issues: 67% (80% two years ago) of the procedures where documentation is required do not allow foreigners to upload or retrieve documents. Language problems pose an additional barrier: 43% (50% two years ago) of the procedures lack alternative languages on the service website. 18% (22% two years ago) of the services cannot be completed, because users are requested to physically visit a government office and foreign users cannot since they are abroad.

4.4 Business Life Events have an edge over citizen Life Events

Two of the eight Life Events focus on business-related services, while six focus on citizens. In general, the business-related Life Events outperform those targeting citizens almost every time. As shown in Figure 4.4, the *Business Start-up* and *Regular Business Operations* Life Events are more mature when looking at the four top-level benchmark averages, as opposed to the Life Events that serve citizens (bearing in mind that the *Family* and *Losing and Finding a Job* Life Events are not measured on the *Cross-Border Mobility* top-level benchmark).

The performance differences between citizen and business services are most apparent in Bulgaria, where business services rank 26% higher than citizen services, Switzerland with a gap of 25%, and North Macedonia at 22%. However, in the Netherlands, Montenegro and Turkey the Life Event services for citizens and businesses perform at a similar level, with less than 2% difference. Conversely, citizen Life Events perform slightly higher In Malta, Finland, and Iceland (up to 2%.).

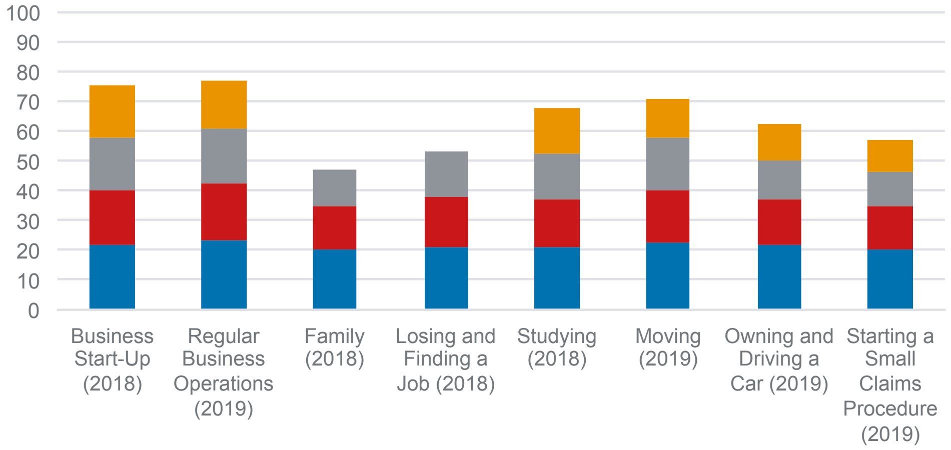

Figure 4.4 Overall performance by business and citizen Life Events (2018 and 2019)

When reviewing the separate top-level benchmarks and individual indicators, the difference between the citizen and business Life Events is most apparent for *Key Enablers*. In this area, *Regular Business Operations* stands at 75% and *Business Start-up* at 73%, whereas the citizen Life Events range from 48% (*Starting a Small Claims Procedure*) to 69% (*Moving*).

Cross-Border Mobility also varies substantially between business and citizen Life Events. While *Business Start-Up* stands at 70% and *Regular Business Operations* at 64%, the citizen Life Events range from 36% (*Starting a Small Claims Procedure*) to 61% (*Studying*), reflecting the prevalence of cross-border movements among students.

In the area of *Transparency*, the scores are more comparable. *Regular Business Operations* and *Business Start-Up* both pass the 70% mark, at 74% and 71% respectively. However, half of the citizen Life Events under the umbrella of *Transparency* reach 65% or above too, with *Moving* at 72%, *Losing and Finding a Job* at 68%, and *Studying* at 65%.

The most similar performances can be observed for *User Centricity*, with *Regular Business Operations* (95%) being ahead of *Moving* (89%) and *Business Start-Up* (89%), while the least mature Life Event, *Family*, still holds a respectable score of 80%. This is also true for *Mobile Friendliness*, with *Owning and Driving a Car* at 88%, *Moving* at 87%, *Regular Business Operations* at 87% and *Business Start-Up* at 66%.

5 Looking Ahead and Driving Improvement

Looking Ahead and Driving Improvement

5.1 Why do some countries perform better than others?

The study's "benchlearning" analysis calibrates the benchmark performance of each country against various country characteristics. This means that countries operating within similar contexts, but with different levels of eGovernment performance, can learn from each other.

What factors and key characteristics could influence eGovernment performance going forward? To answer this question, the two *absolute* indicators of eGovernment performance - Penetration and Digitalisation - are compared with *relative* indicators - the users, governmental, and digital context characteristics of a country. This is what we call the "benchlearning" exercise, which allows us to match the overall performances of countries with their own structural characteristics. 28 countries were included in the analysis (i.e. the EU27 and the United Kingdom, which was still a member of the EU in 2019).

The benchlearning exercise offers an overview of each country's performance in eGovernment by looking at the phenomenon from two different perspectives, embedded in two different indicators:

i) **Penetration**: captures the extent to which online channels are used by citizens for obtaining government services, i.e. the demand for online public services;

ii) **Digitalisation**: measures the online supply of public services on the basis of the overall score of a country in the benchmark assessment exercise.

These two absolute indicators allow us to divide the EU27+UK into four different scenarios: *Fruitful eGovernment* (countries with a high level of both Digitalisation and Penetration), *Expandable eGovernment* (countries with higher levels of Digitalisation and lower levels of Penetration), *Unexploited eGovernment* (countries with lower levels of Digitalisation combined with higher levels of Penetration) and *Non-Consolidated eGovernment* (countries with a low level in both indicators).

These scenarios help us to identify areas for improvement that each country needs to invest in if they want to reach a higher level of eGovernment performance. The analysis allows us to offer suggestions for actions that should be addressed in order to improve each country's overall performance.

To improve Digitalisation levels, countries should look towards investing in policies that will improve *User Centricity*, *Transparency*, *Cross-Border Mobility* and *Key Enablers* (the level of the back-office and the front-office digitalisation). Penetration levels can be improved by raising citizens' awareness about available eGovernment services, therefore expanding the number of online users, or by automating processes and requesting fewer forms from citizens.

Thanks to a methodology that has remained unaltered since 2016, historical trend analyses were also conducted to give a view of overall progress: In 2019, ten countries (Austria, Denmark, Estonia, Finland, France, Latvia, Lithuania, Netherlands, Spain, Sweden) displayed high, or *Fruitful*, performances, as opposed to just eight in 2016.

Progressive Countries
A group of four countries increased their performance over the three years. Austria moved from *Expandable* to *Fruitful* in 2017, increasing in particular its level of Penetration. France managed to increase its level of Digitalisation from 2017 onwards and moved from *Unexploited* to *Fruitful*. Luxembourg (in 2018) and Slovenia (in 2019) made the necessary adaptations to move towards *Expandable*, which they achieved by moving above the average in Digitalisation.

Regressive Countries
As technology progresses, countries that were once pioneers in the area of eGovernment can quickly lose their edge if they do not continue to evolve. This was the case for Croatia and Slovakia in 2017, both of which experienced lower Penetration, moving from their initial positioning of *Unexploited* to *Non-Consolidated*. Similarly, Germany did not preserve their position as *Expandable*, moving to *Non-Consolidated* in 2017 as a result of a lower positioning in Digitalisation.

The benchlearning exercise has a wider purpose than providing a simple overview of each country's performance. The second step of the analysis compares performance (Digitalisation and Penetration) with relative indicators to help countries better understand where they stand when compared to each other. This can signal whether existing bottlenecks prevail on the supply or demand side of digital service provision.

By adding the relative indicators to the analysis, countries can better understand how the level of the national supply and demand of eGovernment services is comparable with the overall digitalisation of their societies. That means each country's performance in terms of Penetration and Digitalisation are analysed with respect to those countries that have similar relative indicators. The higher a country performs on these relative indicators, the higher its eGovernment Digitalisation and Penetration are expected to be. This allows countries with similar contexts but different levels of eGovernment to learn from one another.

The relative indicators used for the analysis are listed below:

- **User characteristics** include elements that enable citizens to use online channels and are assessed analysing users' *Digital Skills* and *ICT Usage*
- **Governments characteristics** reflect the extent to which public organisations are perceived to be transparent and trustable. They are assessed on trust and non-corruption of public administration (*Quality*) and the willingness to be "open" to citizen ideas and interventions (*Openness*)
- **Context characteristics** reflect the status of administered territories and include the deployment of broadband infrastructure (*Connectivity*) and the integration of technologies in the private sector (*Digital in private sector*).

Figure 5.1 relates the Penetration and Digitalisation level of a country to its scores on the relative indicators (describing context and country characteristics). Arrows are used to indicate where scores diverge from the scores that would be expected based on the values of the relative indicators. If the arrow points upwards, this indicates outperformance on Penetration. If the arrow points to the right this indicates outperformance in Digitalisation.

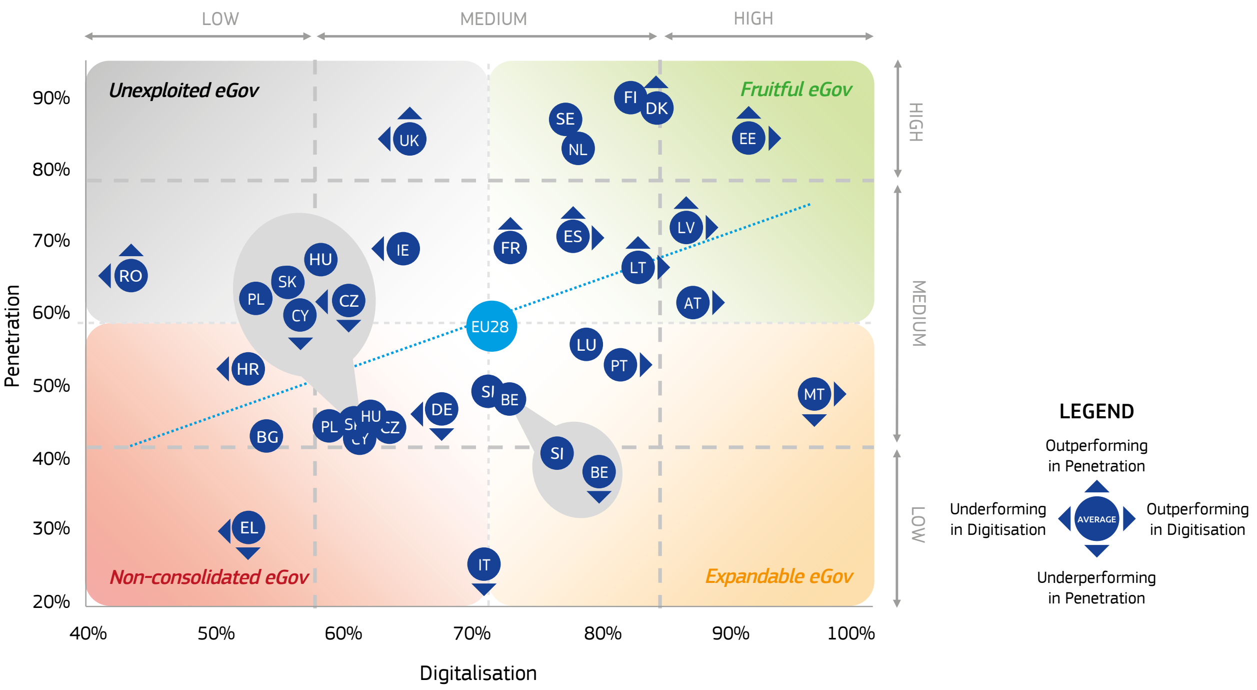

Figure 5.1 Absolute performance on Penetration and Digitalisation, with indication of relative performances (arrows)

Denmark and France are outperforming in Penetration, and remaining steadily on track in regard to Digitalisation, while The United Kingdom and Romania are also outperforming in Penetration but underperforming in their adoption of Digitalisation. On the other side of the spectrum, Austria and Portugal are doing well in Digitalisation and remaining on track in Penetration, with Malta also outperforming in Digitalisation but falling short with an underperformance in Penetration.

Bulgaria, Finland, Hungary, Luxembourg, the Netherlands, Poland, Slovenia, Slovakia and Sweden remain equally on track for both Penetration and Digitalisation. Falling slightly behind, Belgium, Cyprus and Italy are underperforming in Penetration given their country characteristics, while they perform according to expectations in terms of Digitalisation. Conversely, Croatia and Ireland show underperformance in their adoption of Digitalisation, while performing in-line with Penetration averages. Czech Republic, Germany and Greece are the only countries showing a relative performance below the European trend, with sub-optimal results in both Penetration and Digitalisation. Estonia, Latvia, Lithuania and Spain outperform in both Penetration and Digitalisation when compared to European countries with similar characteristics.

Contributing Factors

Multiple, complex, and sometimes interacting factors contribute to higher levels of eGovernment use and supply. In general, it seems that countries with a high usage of eGovernment services can rely on a high level of digital literacy and a large number of daily internet users. Results also suggest that citizens are more likely to use online tools and public services when they have a high level of trust in public administrations.

Countries that score well on Digitalisation often have a high level of deployment and well-developed broadband infrastructure. Furthermore, a country's ability to digitise public services (including integrating front with back-offices, defining standard procedures, collecting and managing data in a co-ordinated and interoperable way) seems to influence the positive perception citizens have of institutional action.

5.2 Outlook

Though the need for user-centric services is widely understood and accepted, investing in digital technology alone is not necessarily enough. Public sector leaders may wish to seek a holistic set of guiding principles to design, manage and operate the public services of the future.

The data from this benchmarking exercise has shown progress across the board, but there is much still to be done if we are to reach a consistent level of performance. Digital delivery of public services is becoming increasingly normalised as we head towards a new digital era, spurred on by the sudden shift to remote working. Measures are implemented to ensure protection of personal data and access to redress and complaint mechanisms. At the same time, the *how*, by which is meant the way these services are delivered, requires attention. Citizens would benefit from increased digital interaction, more sophisticated cybersecurity, and further reduction of administrative burdens, such as form-filling and repetitive manual requests. If eGovernment bodies effectively implement these functionalities, we would see a higher volume of citizens completing their public services online, thus strengthening the case for governments to invest decisively in digitalisation.

Transparency and Security

Citizens are looking for efficient, trusted, responsive, inclusive, and convenient public services, and it is up to eGovernment officials to ensure they feel safe completing their services online.[13] Although *Transparency* is on the rise there is still room for improvement. Often this relates to relatively simple measures that are not yet in place, such as informing users at the beginning of a service process what exactly they should expect and what they will need to complete their request. This also bears upon data privacy and ensuring that users of digital public services feel safe in providing eGovernment administrations with their personal and private information. This ties into the cybersecurity benchmark, which also shows a need for improvement. eGovernment administrations are advised to implement security at a primary level by securing the proper procurement to ensure security by design.

Implementing User-Centric Technologies

As technology evolves, investments in advanced analytics, artificial intelligence (AI), blockchain, cloud computing, and quantum computing will enable the EU27+ to progress along all four eGovernment top-level benchmarks. It is important to note that technological innovations seem to come in waves. For example, Cloud computing, APIs, microservice architectures and Big Data analytics have matured to such an extent that they are being leveraged to advance the European eGovernment agenda.[14] The more up-and-coming technologies such as AI, augmented and virtual reality and blockchain are expected to be parts of the second wave. These technologies already have clear use cases, for example AI powered chatbots for improved digital services and blockchain-enabled digital identities. However, further use case alignment is needed before they are likely to be implemented.[15]

Technological change is certainly one of the biggest drivers for the development of eGovernment services. Tech-centric paradigms, however, have in the past proven to be suboptimal when it comes to the delivery of public sector services. Digitalisation greatly enhances the set of possible approaches and delivery channels, but the users, citizens and businesses, must remain at the centre of change.

In short, governments may take advantage of all available technological possibilities, but they need to adopt such possibilities in ways that put their citizens and users first. This will require investing strongly in citizen engagement to bring users on board. It will also require frontline civil servants to drive organisational change and intelligent process automation.

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[13] See for example: https://blog-idcuk.com/the-new-ethic-of-the-citizen-centric-public-services/

[14] See for instance the population register data exchange among Estonia, Latvia and Lithuania (https://www.rahvastikuregister.ee/) and the data dashboard for the quality of digital public services in France (https://observatoire.numerique.gouv.fr/)

[15] See for instance the chatbot helping foreign entrepreneurs in Finland (http://www.startingupsmoothly.fi/) and the personal citizen assistant chatbot in Austria (https://www.oesterreich.gv.at/ueber-oesterreichgvat/kontakt.html).

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