Digital Economy and Society Index (DESI) 2020

Digital public services

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Digital public services

Digital technologies increasingly place new demands and expectations on the public sector. Realising the full potential of these technologies is a key challenge for governmental organisations. Effective e-government can provide a wide variety of benefits including more efficiency and savings for both governments and businesses. It can also increase transparency and openness. This dimension measures both the demand and supply sides of digital public services as well as open data.

Table 1 Digital public services indicators in DESI

	EU	
	DESI 2018	**DESI 2020**
5a1 e-Government users	**58%**	**67%**
% internet users needing to submit forms	2017	2019
5a2 Pre-filled forms	**53**	**59**
Score (0 to 100)	2017	2019
5a3 Online service completion	**85**	**90**
Score (0 to 100)	2017	2019
5a4 Digital public services for businesses	**83**	**89**
Score (0 to 100) - including domestic and cross-border	2017	2019
5a5 Open data	**NA**	**66%**
% of maximum score		2019

Source: DESI 2020, European Commission.

The top performers are Estonia, Spain, Denmark, Finland and Latvia, all of which have scores greater than 85. On the other hand, Romania, Greece, Croatia, Slovakia and Hungary all score less than 60 and significantly below the EU average of 72.2.

Figure 1 Digital Economy and Society Index (DESI) 2020, digital public services
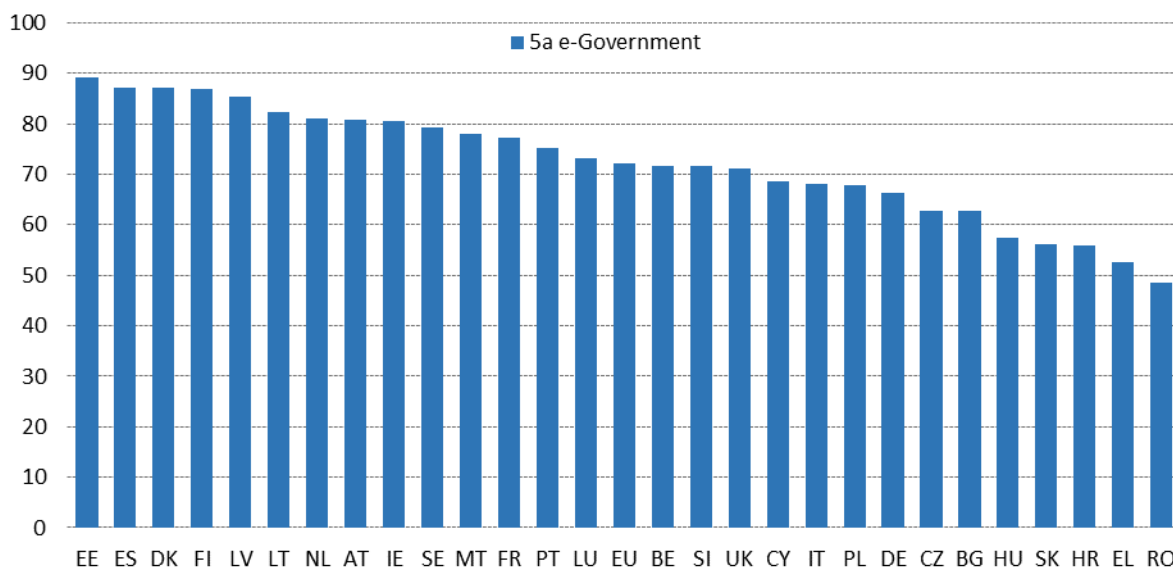
Source: DESI 2020, European Commission.

1. e-Government users

This indicator considers out of all internet users who needed to submit forms to the public administration - the percentage who submitted the forms through online means.

Demand for digital public services is growing: 67% of EU citizens who needed to submit forms to public authorities did so online in 2019. This is an increase from 64% 2018. It is noteworthy that

since 2013, the number of e-government users has increased by 26 percentage points, from 41% to 67%.

Figure 2 e-Government users submitting filled-in forms to public authorities in the last 12 months (% of all internet users needing to submit filled forms to public authorities), 2013-2019
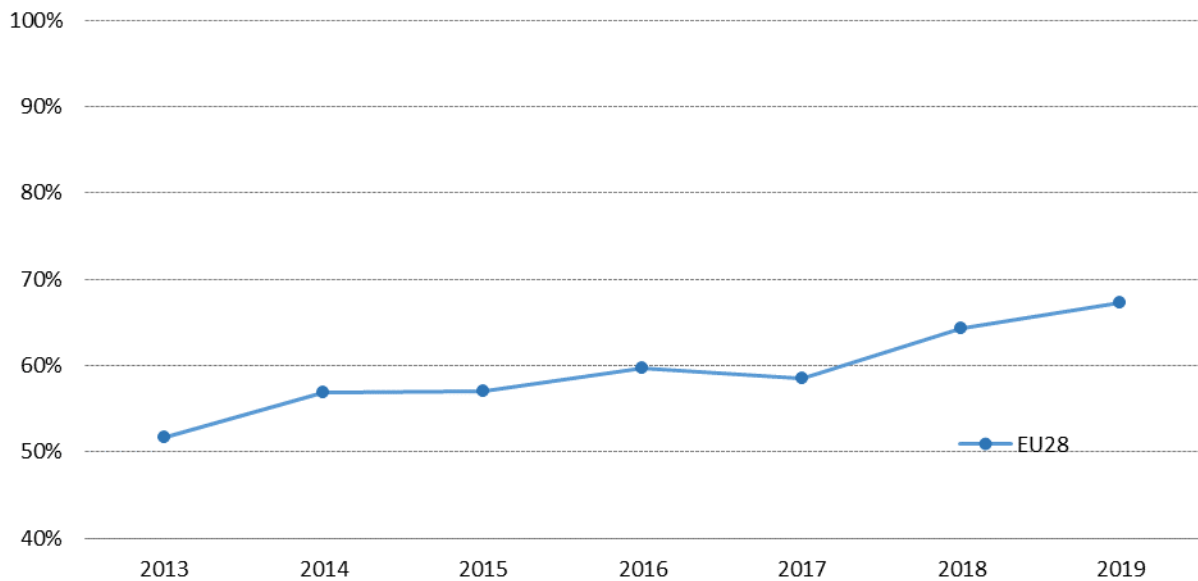
Source: Eurostat, Community survey on ICT usage in Households and by Individuals.

Finland, Estonia and Denmark performed very well on this measure, with more than 90% of internet users (aged 16-74) who needed to submit filled forms to the public administration choosing governmental portals, Italy and Greece were less strong in this measure, and were the only two countries where less than 40% of internet users submitted forms to public authorities online. 20 countries performed better in 2019 than in 2018, with Malta making the largest improvement - an increase of 7 percentage points. Malta was followed by Germany and Spain which both improved by 6 percentage points.

Figure 3 e-Government users submitting filled forms to public authorities over the Internet in the last 12 months (% of all internet users needing to submit forms to public authorities), 2019
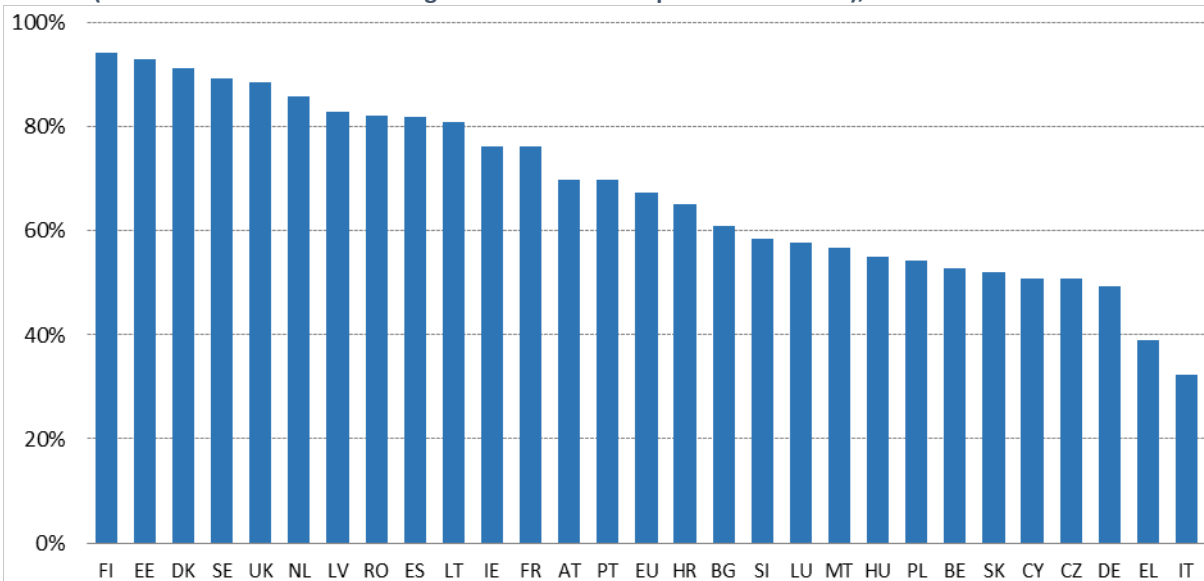

Source: Eurostat, Community survey on ICT usage in Households and by Individuals.

2. Pre-filled forms

This indicator measures the extent to which data that is already known to the public administration is pre-filled in forms presented to the user, awarding a maximum overall score of 100. The use of inter-connected registers is key to ensuring that users do not have to resubmit the same data to the public administration.

In 2019, most of the countries improved on this measure, when compared to 2018. Only three countries (Ireland, the Netherlands and Belgium) recorded lower scores than in 2018. Luxembourg (+11 points), Hungary (+11 points), Bulgaria (+8 points) and Spain (+7 points) progressed most in 2019. The best performing countries in 2019 were Malta, Estonia, Lithuania and Latvia, all of which had scores above 85 points. However, there is a substantial gap between the best and worst performing countries, with Romania, the UK and Greece, all scoring below 30 points.

Figure 4 Pre-filled forms (Score 0 to 100), 2019
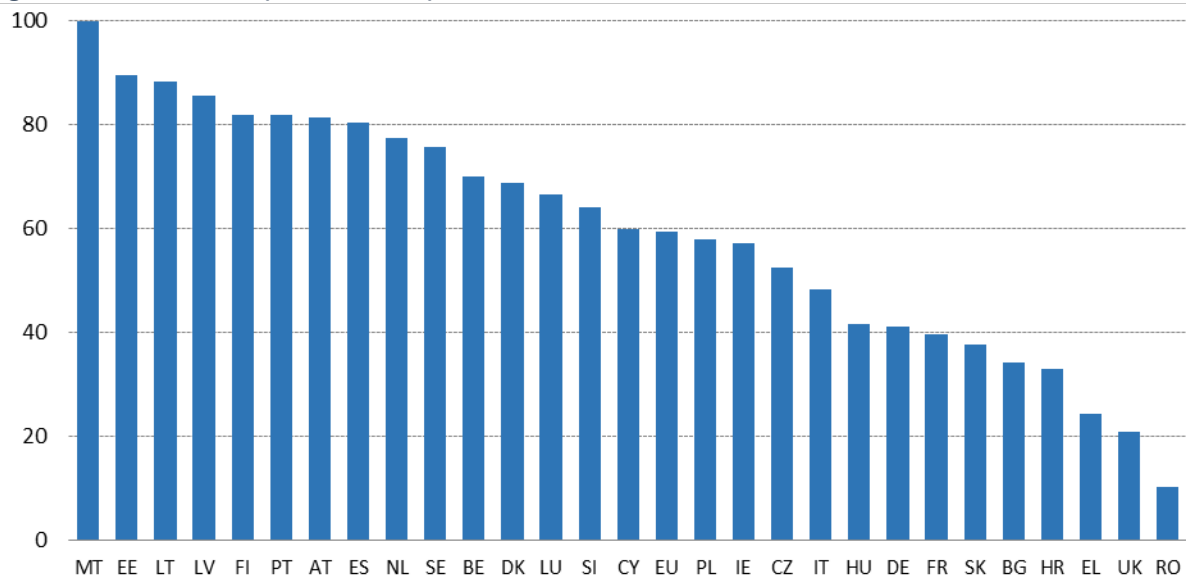
Source: eGovernment Benchmark, Capgemini.

3. Online service completion

Online service completion refers to the extent to which the various steps needed for dealing with the public administration can be done completely online.

Malta, Denmark, Portugal, Estonia and Austria performed the best on this measure. Altogether 14 countries (Malta, Denmark, Portugal, Estonia, Austria, Latvia, Lithuania, Spain, Finland, France, the UK, Italy, Sweden and Slovenia) scored above 90 points. Romania, Croatia, Cyprus and Bulgaria scored less than 80. The Netherlands fell by 2.6 points, while Lithuania and Czechia both fell by less than 1 point compared to 2018. Croatia is the country with the greatest increase (+9.1 points) compared to 2018, followed by the UK (+6.5 points), Slovakia (+5.6 points), Slovenia (+5.1 points) and Hungary (+5.1 points).

Figure 5 Online service completion (score 0 to 100), 2019
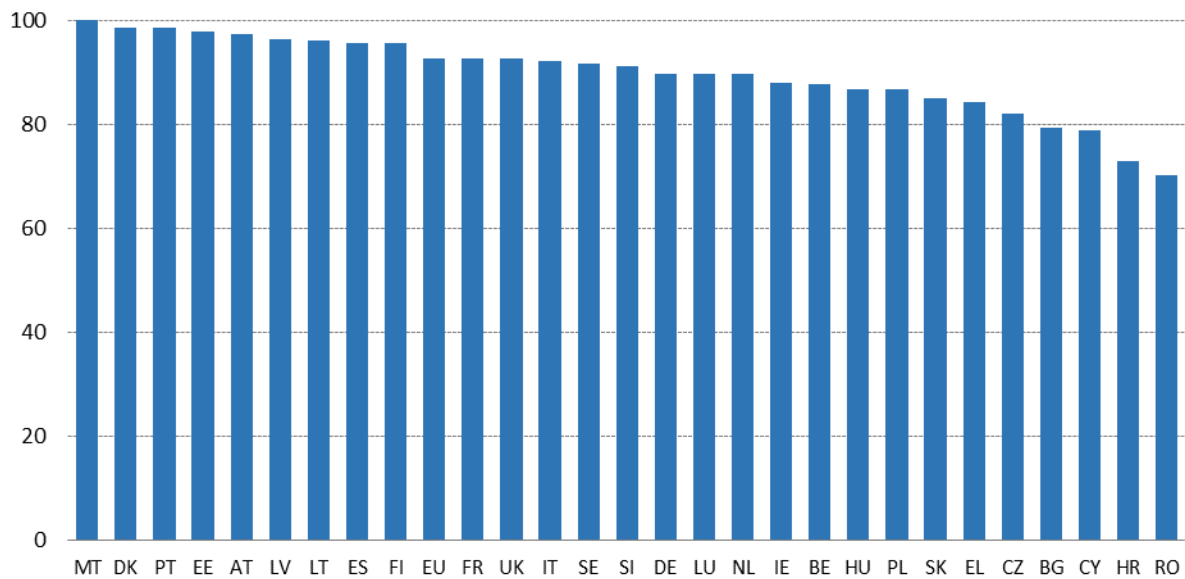
Source: eGovernment Benchmark, Capgemini.

4. Digital public services for businesses (including the cross-border dimension)

The indicator measures the degree to which public services for businesses are interoperable and work cross-border. It is calculated as the average of the national and cross-border online availability for basic services[1].

The indicator assesses to what extent basic public services for businesses, when starting a business and conducting regular business operations, are available online and across borders in other EU Member States. Services provided through a portal receive a higher score, while services that only provide information online but which require operations to be carried out offline receive a lower score.

The score for e-government services for businesses is growing steadily. Compared to 2018, there was an increase of 3.3 points in 2019. Since 2014, the increase is more than 16.5 points.

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[1] Basic services: services and procedures needed to fulfil the essential requirements of a Life Event, i.e. core registration and other transactional services. More information:
https://ec.europa.eu/newsroom/dae/document.cfm?doc_id=55174

Figure 6 e-Government services for businesses (Score 0 to 100), 2013-2019
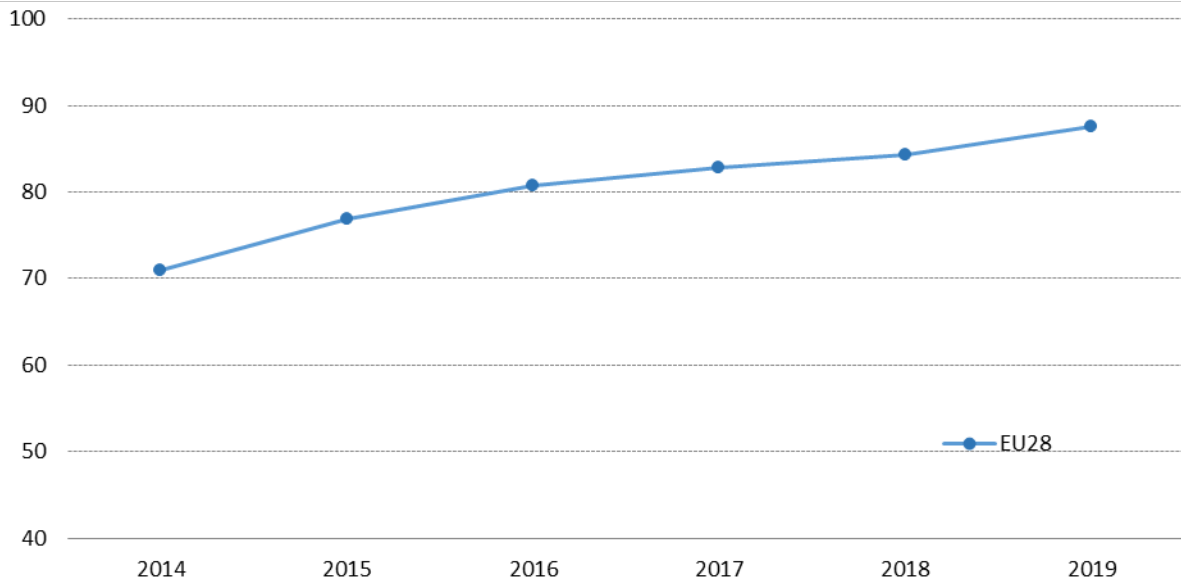
Source: eGovernment Benchmark, Capgemini.

Altogether, 18 countries (Denmark, Estonia, Ireland, Luxembourg, the UK, Italy, Malta, Lithuania, Spain, Austria, Belgium, Bulgaria, France, Sweden, Germany, Finland, Cyprus and Latvia) scored more than 90 points (out of 100). On the other hand, Romania, Greece and Croatia scored below 70. Germany, Belgium and Italy recorded the greatest improvement compared to 2018, each improving by 12.5 points. None of the Member States recorded a fall. However, 13 Member States saw no change in their score compared to 2018.

Figure 7 e-Government services for businesses (Score 0 to 100), 2019
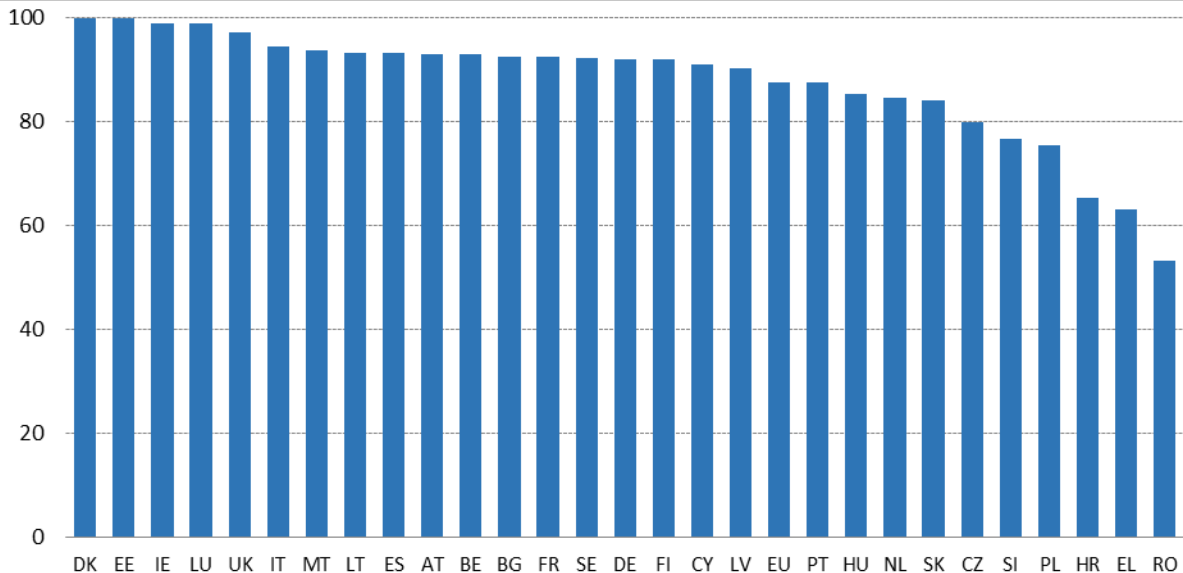
Source: eGovernment Benchmark, Capgemini.

5. Open data

This indicator measures the government's commitment to open data[2].

Since 2018, the level of maturity of open data has been based on the four following indicators.

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[2] Open Data in Europe 2019: https://www.europeandataportal.eu/en/dashboard/2019

1. Open data policy:

   (i) the presence at national level of specific policies on open data and licensing norms; and

   (ii) the extent of coordination at national level to: (a) provide guidelines to national, local and regional administrations; and (b) set up coordinated approaches towards data publication.

2. Open data portals: the development of national portals and their level of sophistication in featuring available open data.

3. Open data impact: the impact of open data at country level on four dimensions: political, social, environmental and economic.

4. Open data quality:

   (i) the extent to which national portals have a systematic and automated approach to harvesting metadata from sources across the country; and

   (ii) the extent to which national portals comply with the metadata standard DCAT-AP (specification for metadata records).

The overall results across the EU show broad diversity in the speed of transformation and in the priorities that countries have set. The countries that are less advanced in open data typically choose to take what they deem to be the natural first steps. This means investment in modernising their national portals so the portals become the main gateways to open data available throughout the country. The more 'mature' open-data countries take a slightly different approach, focusing instead on improving the quality of their data publication. The middle-performing countries have a different approach to both the less advanced and the more 'mature' countries: they are now focusing on: (i) understanding the impact derived from open data; and (ii) activities to monitor and capture this impact.

Ireland, Spain and France performed well on this measure, scoring more than 80%. On the other hand, Hungary, Slovakia, Malta and Portugal underperformed, with scores below 50%.

Figure 8 Open data (% of the maximum open data score), 2019
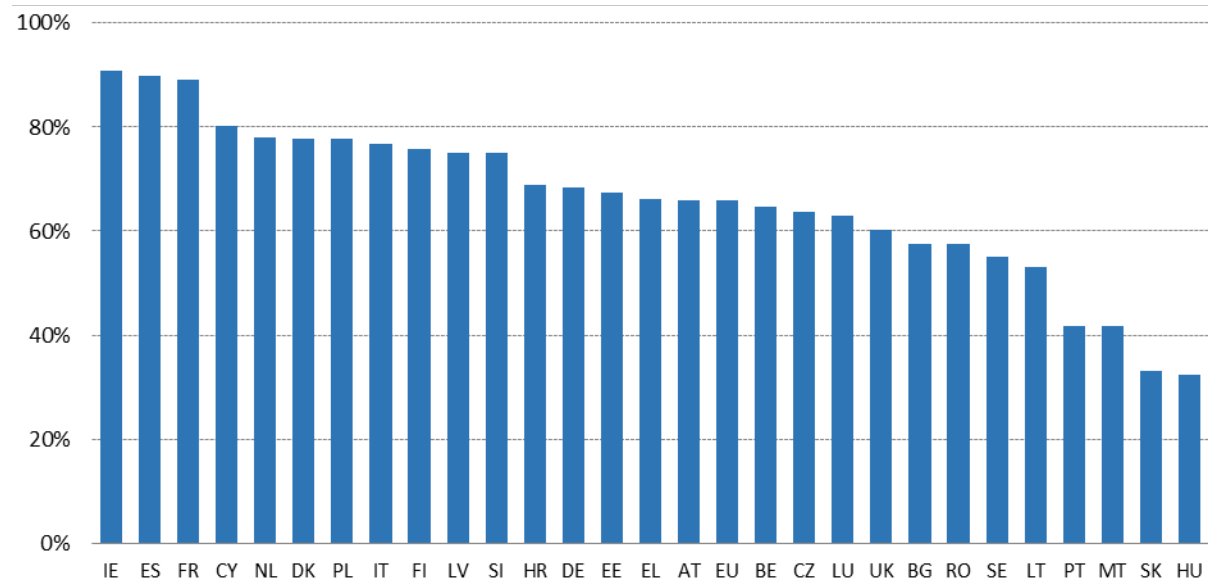
Source: European Data Portal.

6. User centricity

This indicator includes the following three key elements of online service provision.

1. Online availability: this illustrates how services are made available (there are four possibilities: the service is automated; the service is available online through a portal or

directly; information on the service is available either through a portal or online; the service or any information about the service is not online available).

2. Usability: this measures the availability of support channels and feedback mechanisms, such as online chats.

3. Mobile friendliness: this captures the extent to which government services are available through mobile devices, providing a seamless and convenient mobile experience to the public and businesses.

**Figure 9 User centricity breakdown (Score 0 to 100), 2017-2019**
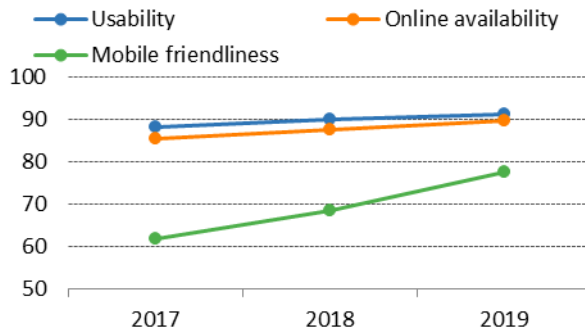
Source: eGovernment Benchmark, Capgemini.

Over the last three years, online availability has improved by 4.2 points to 88.5, broadening the online scope of public services. Moreover, usability has increased by 3 points to 91.4. Encouragingly, public sector services are becoming more mobile-friendly, allowing users to find information and obtain services anytime and anywhere. Since 2017, there has been a significant progress in mobile friendliness, with an improvement of more than 15.5 points.

Malta, Denmark, Austria, Estonia, Finland, Portugal and Latvia are in the lead, all scoring more than 95 points. Romania, Croatia and Cyprus are lagging behind, all scoring less than 75 points.

Figure 10 User centricity (Score 0 to 100), 2019
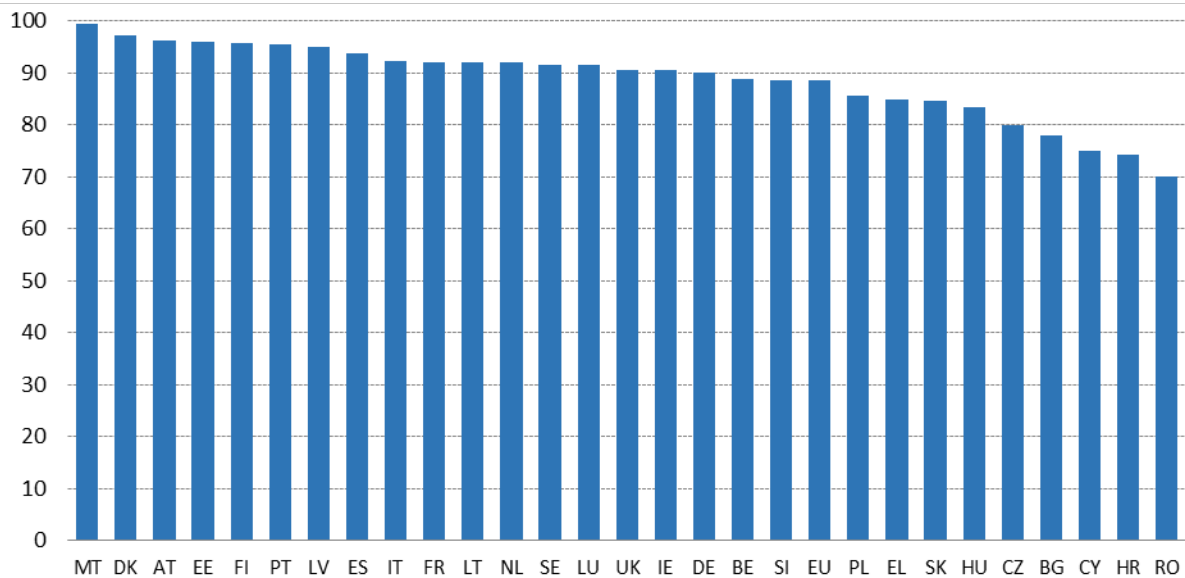
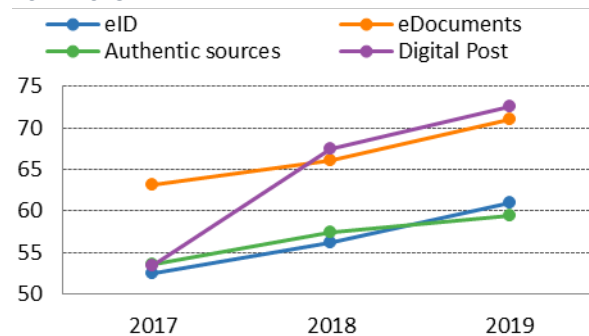Source: eGovernment Benchmark, Capgemini.

7. Key enablers

The key enabler indicator includes the following four elements of online service provision and availability.

1. Electronic Identification (eID) a government-issued document for online identification and authentication.

2. eDocuments: a document that has been authenticated by its issuer using any means recognised under applicable national law, specifically through the use of electronic signatures, i.e. not a regular PDF or Word document.
3. Authentic sources (named as pre-filled forms in DESI): base registries used by governments to automatically validate or retrieve data related to individuals or businesses.
4. Digital post: assesses whether public authorities allow people to receive communications digitally only, hence reducing paper mailings. Digital post refers to the possibility for governments to communicate with people or entrepreneurs by electronic means only, such as through personal electronic mailboxes.

Member States have ample room to improve the implementation of key enablers in their service provision. For 2019, the eID indicator stands at 61 (out of 100); eDocuments at 71; authentic sources at 59.4; and digital post at 72.6. However, there has been notable progress, especially in the take-up of digital post. Since 2017, the use of key enablers has increased by 10.4 points in total. In that time, eID recorded an increase of 8.5 points, eDocuments increased by 7.9 points, and authentic sources by 5.9 points. Digital post recorded the greatest increase (19.3 points) since 2017.

Figure 11 Key enablers progress (Score 0 to 100), 2017-2019

Source: eGovernment Benchmark, Capgemini.

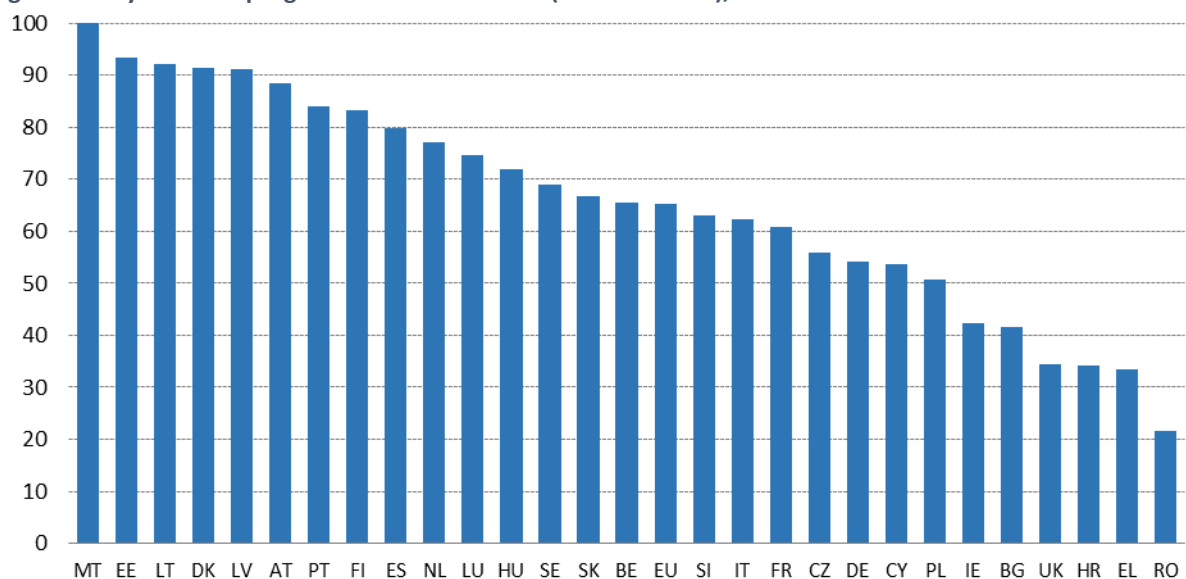**Figure 12 Key enablers (Score 0 to 100), 2019**
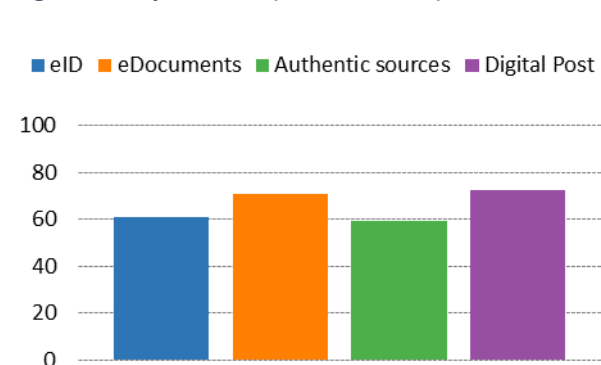
Source: eGovernment Benchmark, Capgemini.

Malta, Estonia, Lithuania, Denmark and Latvia are in the lead on key enablers, scoring more than 90 points in 2019. Romania, Greece, Croatia and the UK are lagging behind, scoring less than 40 points.

**Figure 13 Key enablers progress in Member States (Score 0 to 100), 2019**

Source: eGovernment Benchmark, Capgemini.

8. Cross-border mobility

Cross-border mobility indicates the extent to which users of public services from another EU country can use the online services of the EU country being assessed.

Cross-border mobility includes four indicators, assessed in a cross-border scenario: online availability, usability, eID and eDocuments. These indicators measure whether services are available online, whether they are usable and whether key enablers like eID and eDocuments work for people from abroad.

Figure 14 Cross-border mobility (Score 0-100), 2017-2019
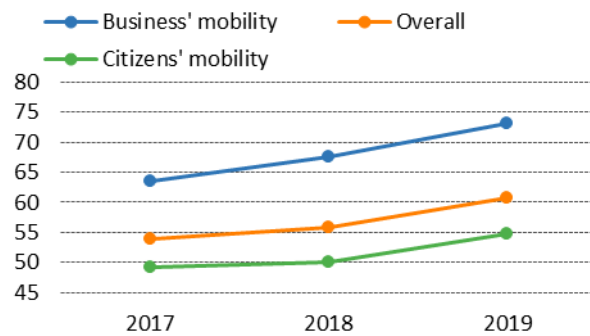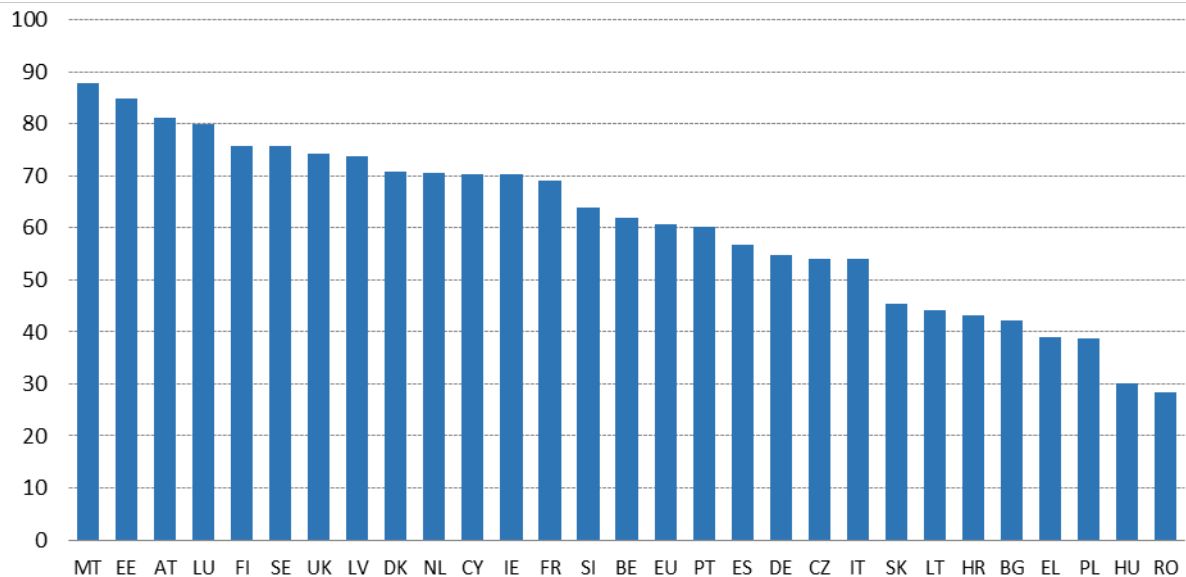

Source: eGovernment Benchmark, Capgemini.

The cross-border availability and usability of services for businesses is much more advanced when compared to cross-border services directed at the public. However, there has also been significant progress in services offered to the public. Over the last 3 years, business mobility has risen by 9.5 points to 73 and citizens' mobility by 6.8 points to 60.8.

Malta, Estonia, Austria and Luxembourg lead the EU in this measure, all scoring more than 80 points. The countries with less cross-border flexibility and advancement are Romania, Hungary, Poland and Greece, all of which have scores below 40. The countries that have made the most progress since 2018 are Luxembourg (+16.8 points), Cyprus (+13.5 points), Austria (+12.7 points), Italy (+11.7 points) and Estonia (+10.9 points).

Figure 15 Cross-border mobility (Score 0-100), 2019

Source: eGovernment Benchmark, Capgemini.

ANNEX I Abbreviations

Abbreviation	Explanation
4G / 5G	Fourth/Fifth generation technology standard for cellular networks
AI	Artificial Intelligence
BCO	Broadband competence office
BERD	Business expenditure on R&D
CAGR	Compound annual growth rate
CEF	Connecting Europe Facility
CRM	Customer Relationship Management
CSA	Coordination and Support Actions
DIH	Digital Innovation Hubs
DII	Digital Intensity Index
DOCSIS	Data over cable service interface specification
DSL	Digital subscriber line
DTT	Digital terrestrial television
EBP	European Blockchain Partnership
EBSI	European Blockchain Services Infrastructure
eForm	Electronic Form
EFSI	European Fund for Strategic Investments
eID	Electronic Identification
eider's	Electronic Identification, Authentication and Trust Services
EIF	European Investment Fund
ERA-NET	European Research Area
ERM	Enterprise Risk Management
ERP	Enterprise Resource Planning
Euro HPC JU	Euro High Performance Computing Joint Undertaking
FET	Future & Emerging Technologies
FTTB	Fibre-to-the-building
FTTH	Fibre-to-the-home
FTTP	Fibre-to-the-premises
FWA	Fixed wireless access
GBARD	Government Budget Allocations for R&D
GDP	Gross Domestic Product
GHz	Gigahertz
HES	Secondary and Higher Education Establishments
HPC	High Performance Computing
IA	Innovation Action
IaaS	Infrastructure as a service
ICOs	Initial Coin Offerings
ICT	Information and communication technology
IMSI	International mobile subscriber identity
IoT	Internet of Things
JRC	Joint Research Centre
LEIT	Leadership in Enabling and Industrial Technologies
LTE	Long-term evolution
Mbps	Megabits per second
MHz	Megahertz
MNO	Mobile network operator
MVNO	Mobile virtual network operator

NACE	Statistical Classification of Economic Activities in the European Community
NBP	National broadband plan
NGA	Next generation access
NRA	National regulatory authority
OTT	Over-the-top
PaaS	Platform as a Service
PCP	Pre-Commercial Procurement
PERD	R&D personnel
PPI	Public Procurement for Innovation
PPS	Purchasing Power Standards
PRC	Private for-Profit Companies
PSAP	Public safety answering point
QCI	Quantum Communication Infrastructure
R&D	Research and Development
R&I	Research and Innovation
REC	Research Organisations
SaaS	Software as a Service
SMEs	Small and Medium Enterprises
USO	Universal service obligation
VDSL	Very-high-bit-rate digital subscriber line
VHCN	Very high capacity network