Digital Economy and Society Index (DESI) 2021

Digital public services

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1 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[1].

The Digital Decade has the target that all key public services for businesses and citizens should be fully online by 2030. Indicators 4a3 and 4a4 are monitoring the progress of these targets.

Table 1 Digital public services indicators in DESI

	EU	
	DESI 2019	**DESI 2021**
4a1 e-Government users	**60%**	**64%**
% internet users	2018	2020
4a2 Pre-filled forms	**NA**	**64**
Score (0 to 100)	0	2020
4a3 Digital public services for citizens	**NA**	**75**
Score (0 to 100)	0	2020
4a4 Digital public services for businesses	**NA**	**84**
Score (0 to 100)	0	2020
4a5 Open data	**NA**	**78%**
% maximum score	0	2020

Source: DESI 2021, European Commission.

The top performers are Estonia, Denmark and Finland, while Romania, Greece and Hungary have the lowest score.

Figure 1 Digital Economy and Society Index (DESI) 2021, Digital public services
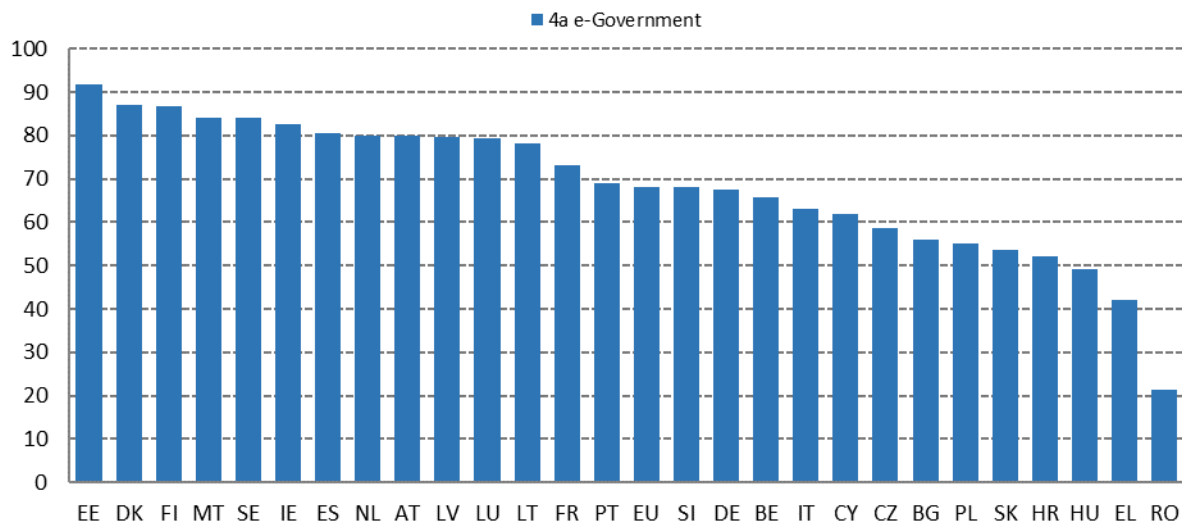

Source: DESI 2021, European Commission.

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[1] This analysis can be complemented with the factsheets on digital public administration and interoperability of the National Interoperability Framework Observatory: https://joinup.ec.europa.eu/collection/nifo-national-interoperability-framework-observatory/digital-public-administration-factsheets

1.1   e-Government users

This indicator considers out of all internet users, the percentage of individuals who used the Internet in the last 12 months for interacting with public authorities. The indicator was updated to better cover the volume of interaction of citizens with public authorities online. The previous indicator was measuring solely the percentage of citizens submitting forms through online means, and who needed to do so.

Denmark, Finland, and the Netherlands performed very well on this measure, with more than 90% of internet users (aged 16-74) interacting with the public administration choosing governmental portals. Romania, Bulgaria and Italy were less strong in this measure, and were the only three countries where the percentage of citizens interacting with public administrations was less than 40%.

Figure 2 e-Government users interacting online with public authorities over the Internet in the last 12 months (% of internet users), 2020
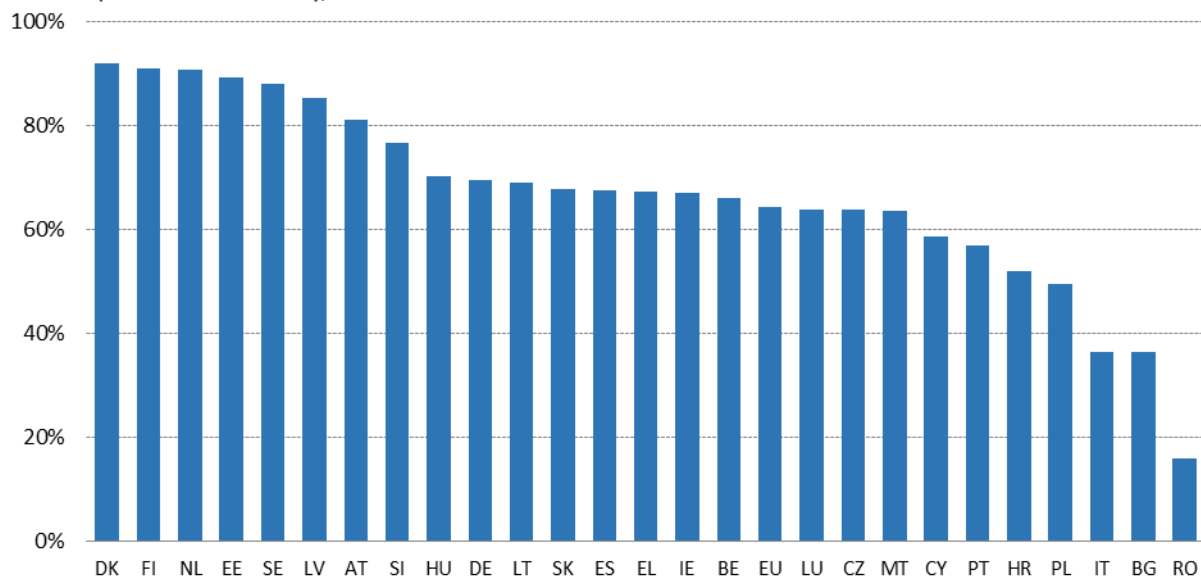
Source: Eurostat, Community survey on ICT usage in Households and by Individuals.
*Data for France was not collected for 2020

1.2   Pre-filled forms

This indicator[2] measures the extent to which data that is already known to the public administrations 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 (Once-only principle).

In 2020, the indicator was updated compared to 2019 to align with policy advancements and goals in the field (e.g. alignment with the Single Digital Gateway Regulation[3]). The eGovernment Benchmark method was updated, and the total number of services assessed[4] was simplified.

The best performing countries in 2020 were Estonia, Finland and Malta, all of which had scores above 95 points. However, there is a substantial gap between the best and worst performing countries, with Romania scoring below 10 points, and Slovakia, Greece and Cyprus below 40.

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[2] The input for this indicator is the authentic sources indicator of the eGovernment benchmark.
[3] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2018.295.01.0001.01.ENG
[4] The number of national services assessed in 2020 was 90 (63 for citizens and 27 for businesses), while in 2019 the number of services was 114 (70 for citizens and 44 for businesses).

Figure 3 Pre-filled forms (Score 0 to 100), 2020
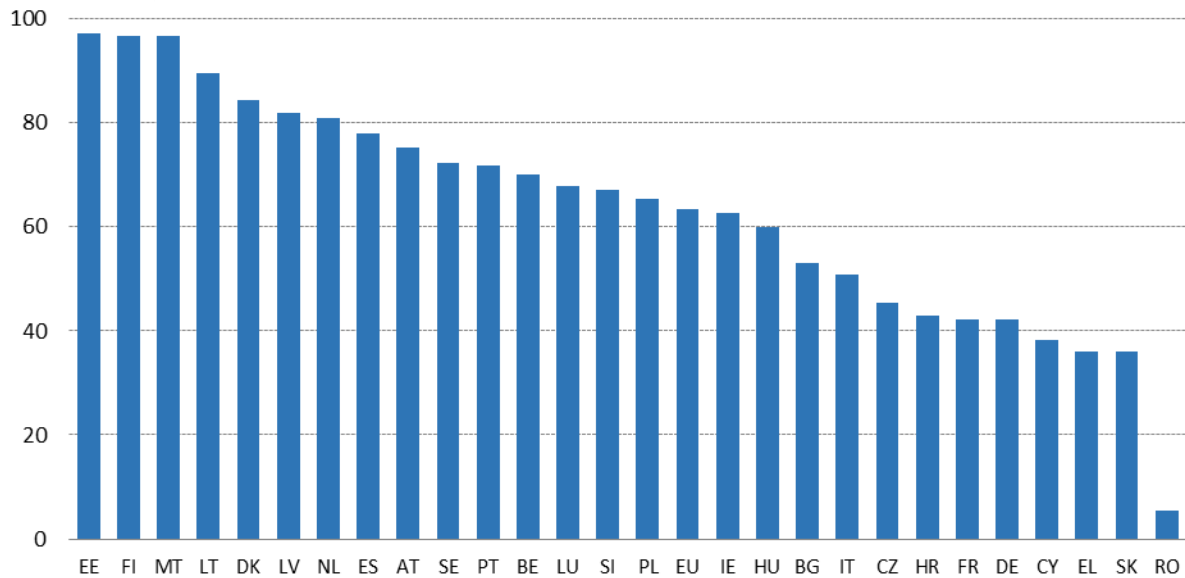
Source: eGovernment Benchmark, Capgemini.

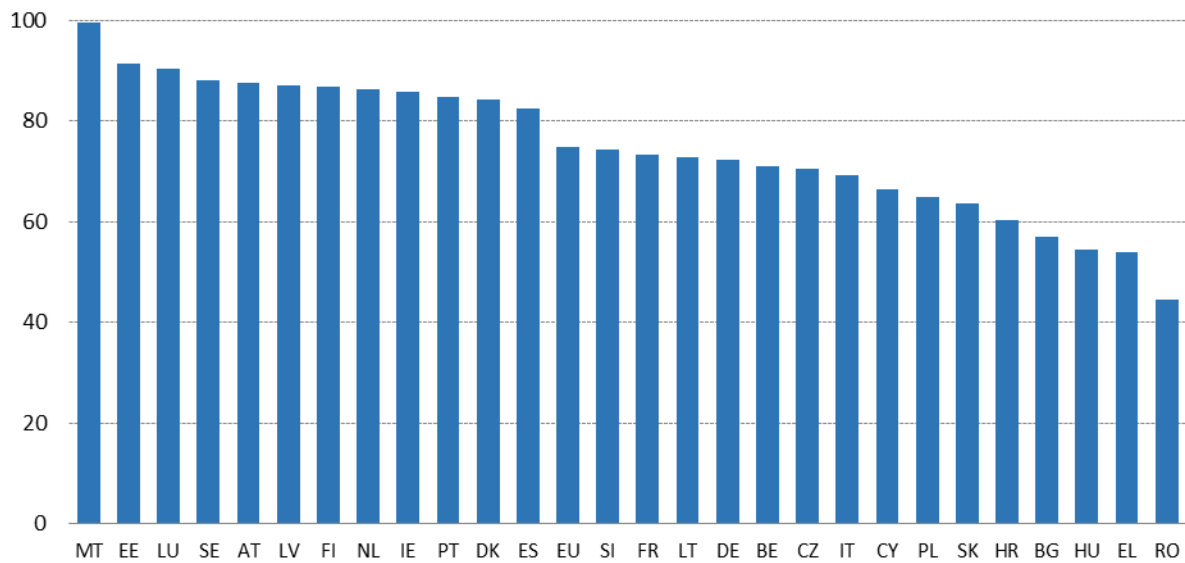## 1.3   Digital public services for citizens

This is a new indicator[5] that measures the extent to which a service or information concerning service for citizens is provided online, and via a portal. Services that are offered fully, partially or not at all online. The indicator represents the share of steps that can be done online for major Life Events (e.g. birth of a child, new residence, etc.) for citizens. It is calculated as the average of the national and cross-border online availability for informational and transactional services[6].

Malta, Estonia and Luxembourg performed the best on this measure, scoring more than 90 points. Altogether 12 countries (Malta, Estonia, Luxembourg, Sweden, Austria, Latvia, Finland, the Netherlands, Ireland, Portugal, Denmark and Spain) scored above 80 points. Romania, Greece, Hungary and Bulgaria scored less than 60.

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[5] In 2020, the indicator replaced the Online service completion indicator that measured the online availability of all (business and citizen) national services, of which some were already covered by the Digital public services for businesses indicator. The input for this indicator is the Online Availability indicator and the Cross-Border Online Availability indicator of the citizen-related life events from the eGovernment Benchmark. The number of national services assessed in 2020 was 63, and for cross border services was 28.

[6] Informational services: services and procedures that provide users with adequate and personalised insight into his/her situation. Transactional services: services and procedures needed to fulfil the essential requirements of a life event through online interaction.

Figure 4 Digital public services for citizens (score 0 to 100), 2020

Source: eGovernment Benchmark, Capgemini.

1.4   Digital public services for businesses

This indicator[7] measures the degree to which public services for businesses are interoperable and work cross-border.

The indicator assesses to what extent informational and transactional services[6] 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.

In 2020, the indicator was updated compared to 2019 to align with policy advancements and goals in the field (e.g. alignment with the Single Digital Gateway Regulation[3]). The eGovernment Benchmark method was updated, and the total number of services assessed[8] was simplified.

This indicator and the Digital public services for citizens are fully complementary and together cover the entire range of services assessed by the eGovernment Benchmark, both from a national and a cross-border perspective.

Altogether, 10 countries (Ireland, Estonia, Luxembourg, Lithuania, Denmark, Malta, Sweden, Spain, Finland and France) scored more than 90 points (out of 100). On the other hand, Romania, Greece and Poland scored below 70.

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[7] The input for this indicator is the Online Availability indicator and the Cross-Border Online Availability indicator of the business-related life events from the eGovernment Benchmark.
[8] The number of national services assessed in 2020 was 27, and for cross border services was 13. In 2019, the number of services assessed was 44 and 24 accordingly.

Figure 5 e-Government services for businesses (Score 0 to 100), 2020
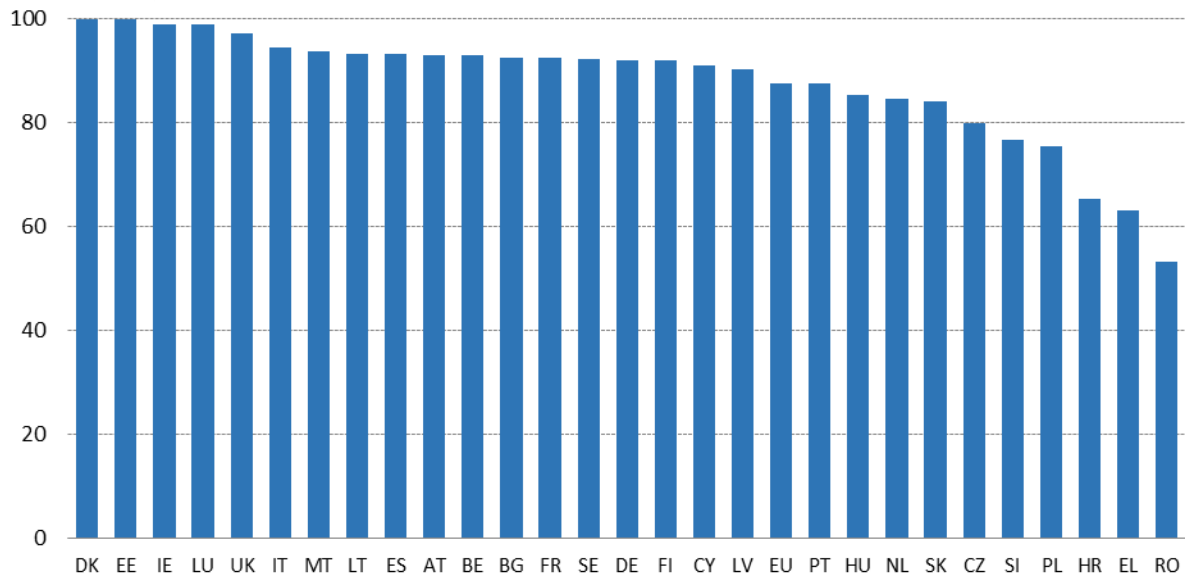
Source: eGovernment Benchmark, Capgemini.

1.5 Open data

This indicator measures the government's commitment to open data[9].

The level of maturity of open data has been based on the four following indicators.

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 impact:
   (i) the extent to which activities are in place to estimate the impact of open data at country level; and
   (ii) the estimated impact of open data at country level in four areas: political, social, environmental, and economic.
3. Open data portal: the development of national portals and their level of sophistication in featuring available open data.
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

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[9] Open Data in Europe 2020: https://data.europa.eu/en/dashboard/2020

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.

Denmark, Spain, France, Ireland, Estonia, Poland, and Austria performed well on this measure, scoring 90% or more. On the other hand, Hungary, Malta, Portugal and Slovakia underperformed, with scores below 60%.

Figure 6 Open data (% of the maximum open data score), 2020
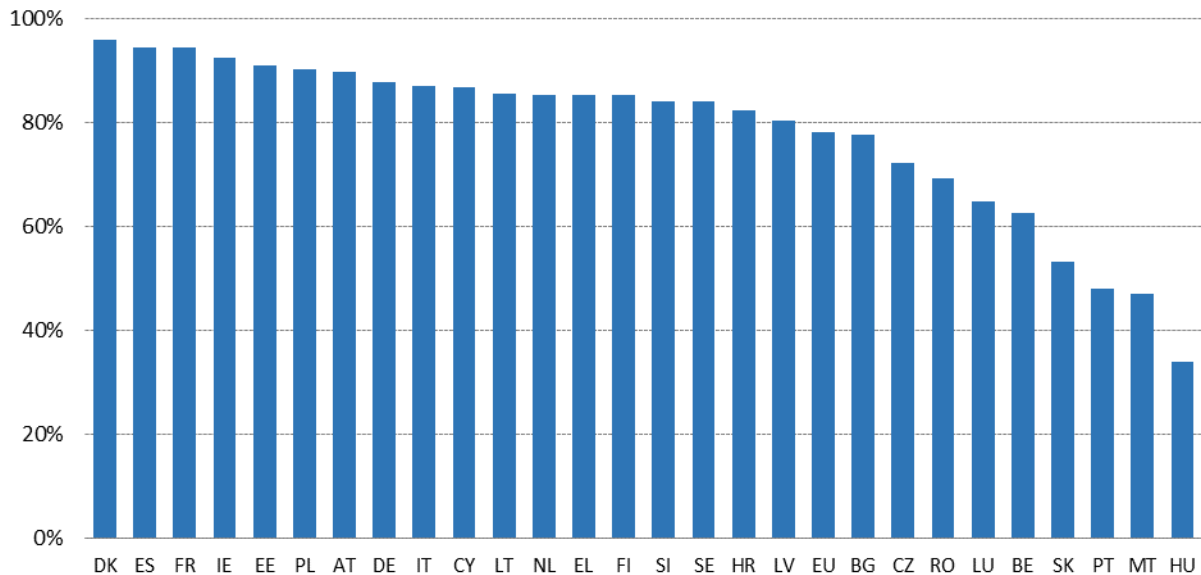
Source: European Data Portal.

1.6   User centricity

This indicator includes the following three key elements[10] of online service provision.

1. Online availability: the extent to which informational and transactional services and information concerning these services is provided online, and can be reached via a portal website.
2. User support: the extent to which online support, help features, and feedback mechanisms are available on government portals.
3. Mobile friendliness: the extent to which services are provided through a mobile-friendly interface, an interface that is responsive to the mobile device.

Similarly to the previous indicators, in 2020, this indicator was updated to align with policy advancements and goals in the field by simplifying the total number of services assessed.

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[10] User support is a revised element. The goal is to develop a better usability indicator that fully captures user experience and user satisfaction. The former indicator was limiting the existence of FAQ-pages and the provision of online support channels. A pilot towards the development of a new usability indicator is scheduled to be launched in autumn 2021.

Figure 7 User centricity breakdown (Score 0 to 100), 2020
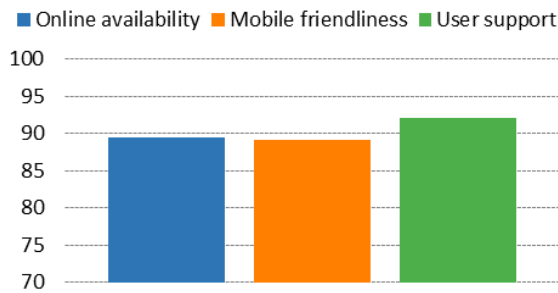
Source: eGovernment Benchmark, Capgemini.

For 2020, online availability stands at 89.5 (out of 100), with Malta, Denmark, Portugal, Finland, Austria, Estonia and Spain scoring more than 95 points; mobile friendliness stands at 89.1, with Sweden, Finland and Denmark leading with scores close to 100; and the new indicator, user support stands at 92, with Finland, Malta and Italy scoring 100, while all the countries score more than 75 points. n total, Malta, Finland, Denmark, Portugal, Austria, Estonia, the Netherlands and Spain are in the lead on user centricity, all scoring more than 95 points. Romania, Cyprus, Bulgaria, Greece, Croatia, Slovakia and Czechia are lagging behind, all scoring less than 85 points.

Figure 8 User centricity status in Member States (Score 0 to 100), 2020
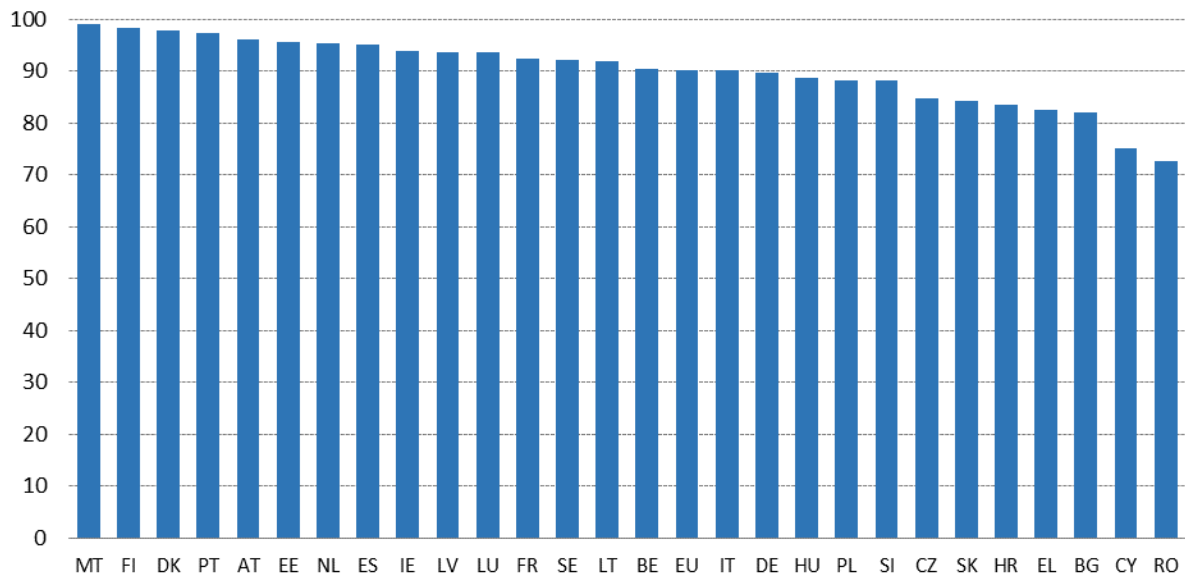
Source: eGovernment Benchmark, Capgemini.

1.7   Transparency

Transparency assesses the extent to which service processes are transparent, services are designed with user involvement and users can manage their personal data[11]. This indicator includes the following three key elements[12].

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[11] The Transparency of personal data indicator analyses the availability and degree of digitalisation regarding online modalities of exercising data subject rights. Importantly, it does not provide a GDPR compliance review (reserved to competent data protection authorities) and does not form any restriction that could be provided by Member State law.

[12] Transparency of public organisations was discontinued and replaced by transparency of service design. Transparency of public organisations was assessing the extent to which public organisations are transparent

1. Transparency of service delivery: the extent to which the service process and expectations are clarified.
2. Transparency of personal data: the extent to which user can manage their personal data held by government organisations.
3. Transparency of service design: the extent to which user are informed on and involved in policy and service design processes.

Similarly to the previous indicators, in 2020, this indicator was updated to align with policy advancements and goals in the field by simplifying the total number of services assessed.

**Figure 9 Transparency breakdown (Score 0 to 100), 2020**
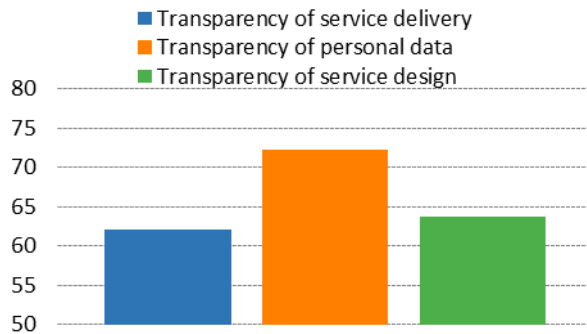
Source: eGovernment Benchmark, Capgemini.

For 2020, transparency of service delivery stands at 62 (out of 100), with Malta, Estonia, Latvia and Lithuania scoring more than 85 points; transparency of personal data stands at 72.2, with Malta, Lithuania, Luxembourg, Estonia, Austria and Poland leading with scores close over 85; and the new indicator, transparency of service design stands at 63.7, with Malta, Luxembourg, the Netherlands, Ireland, Denmark, Finland, Sweden, Estonia, Portugal, France and Slovakia scoring over 100.

In total, Malta, Estonia, Lithuania, Luxembourg, Denmark, Portugal, the Netherlands, Ireland, Austria, Latvia and Finland are in the lead on transparency, all scoring more than 75 points. Cyprus, Romania, Poland, Slovakia, Greece, Germany and Bulgaria are lagging behind, all scoring less than 55 points.

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about their organisational structure, mission and responsibilities, access to information, the possibility to request additional information and where to find corresponding legislation.

Figure 10 Transparency status in Member States (Score 0 to 100), 2020
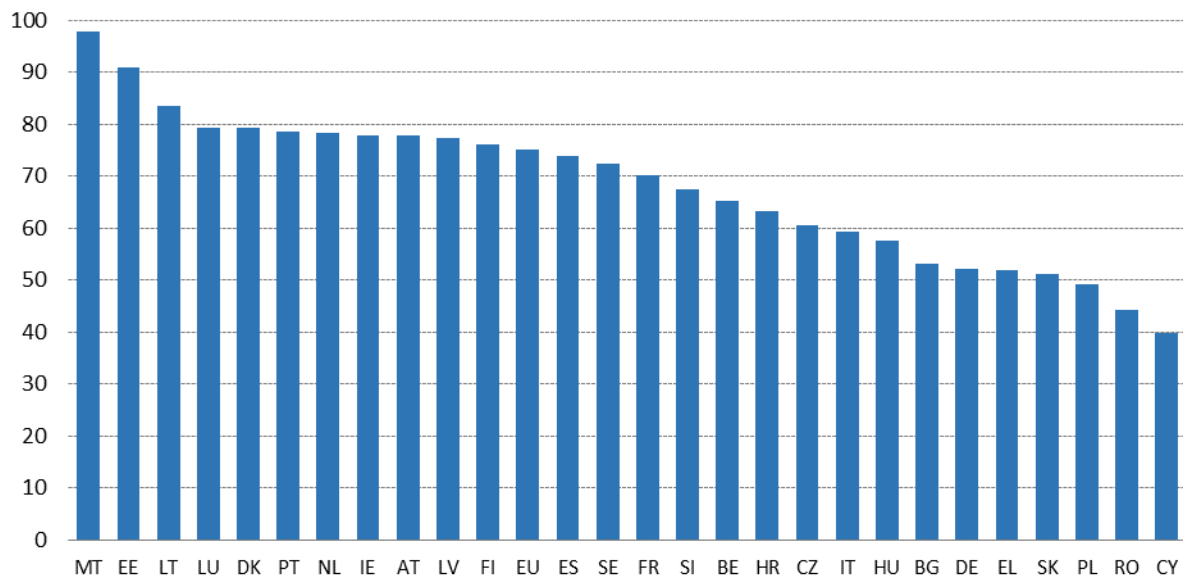
Source: eGovernment Benchmark, Capgemini.
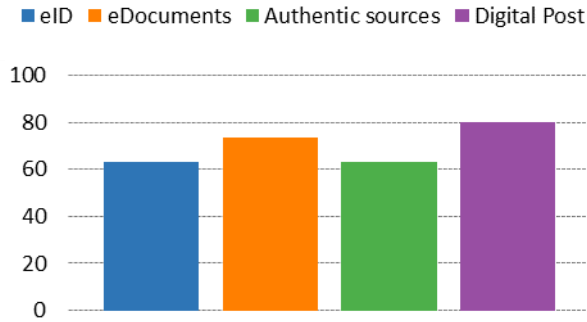
1.8   Key enablers

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

1. eID: the extent to which electronic Identification (eID), any means accepted by eGovernment services (e.g. smartcards, username and password) for online identification, can be used during service processes.

2. eDocuments: the extent to which electronic documents (eDocuments), any document in digital form that the user needs to submit/upload in order to complete an eGovernment service, or that the user obtains as a proof or a result of the service (e.g. certificate, diploma, proof of registration) can be used during service processes.

3. Authentic sources (named as Pre-filled forms in DESI): the extent to which Authentic Sources, base registries used by governments to automatically validate or fetch data relating to citizens or businesses, can be used during the service process.

4. Digital post: the extent to which public authorities allow citizens to receive communications digitally only and opt-out for paper mailings. Digital Post refers to the possibility that governments communicate electronically-only with citizens or entrepreneurs through e.g. personal mailboxes or other digital postal solutions.

Similarly to the previous indicators, in 2020, this indicator was updated to align with policy advancements and goals in the field by simplifying the total number of services assessed.

For 2020, the eID indicator stands at 63 (out of 100), with Malta, and Estonia leading, while Romania, Cyprus and Greece lagging behind; eDocuments stands at 73.8, with Portugal, Denmark, Malta and Estonia leading, while Romania, Greece and Czechia scoring less than 50; authentic sources stands at 63.4, with Estonia, Malta and Finland scoring more than 95, while Romania, Slovakia, Greece and Cyprus lagging behind; and digital post stands at 80.3, with several countries scoring 100, while Romania, Greece, Ireland and Poland scoring less than 50.

Figure 11 Key enablers (Score 0 to 100), 2020

Legend: ■ eID ■ eDocuments ■ Authentic sources ■ Digital Post

Source: eGovernment Benchmark, Capgemini

In total, Malta, Estonia, Finland, Denmark and Lithuania are in the lead on key enablers, scoring more than 90 points in 2020. Romania, Greece, Cyprus and Ireland are lagging behind, scoring less than 40 points.

Figure 12 Key enablers status in Member States (Score 0 to 100), 2020
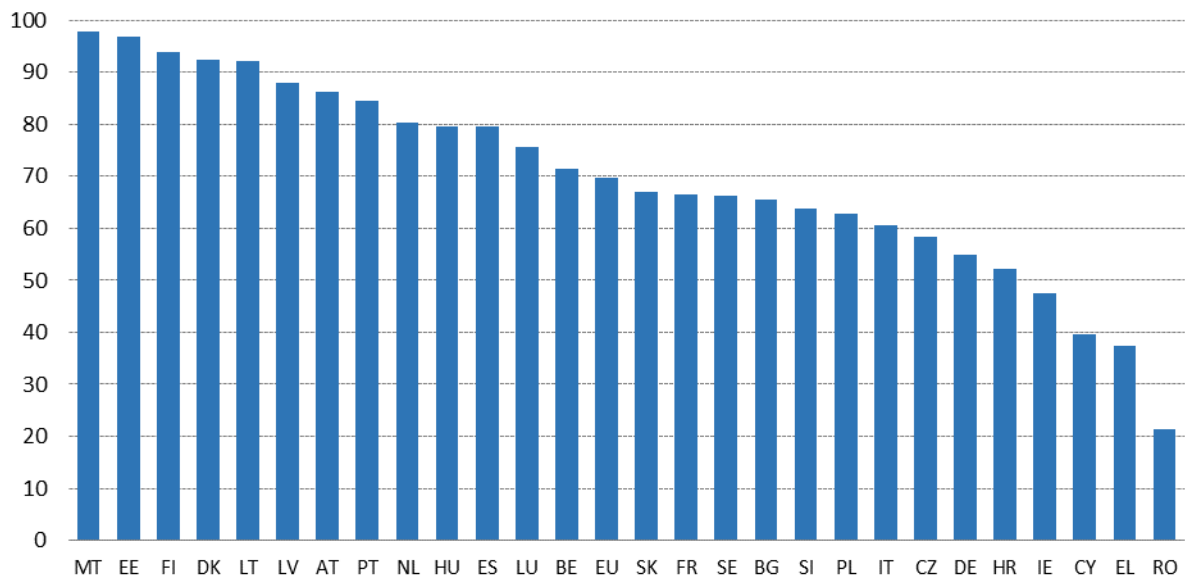
Source: eGovernment Benchmark, Capgemini.

1.9   Cross border services

Cross-border mobility indicates the extent to which information and services are available online, usable, supported with help and feedback functionalities and integrated with eIDs and eDocuments for users from other European countries.

Cross-border mobility includes four indicators, assessed in a cross-border scenario.

1. Cross-border online availability: the extent to which informational and transactional services and information concerning these services are provided online for users from other European countries.

2. Cross-border user support: the extent to which online support, help features, and feedback mechanisms are available for users from other European countries.

3. Cross-border eID: the extent to which electronic Identification (eID) can be used during service processes by users from other European countries, a government-issued document for online identification, and authentication.

4. Cross-border eDocuments: the extent to which electronic documents (eDocuments) can be used during service processes by users from other European countries, documents that have

been authenticated by its issuer using any means recognised under applicable national law, specifically through the use of electronic signatures, e.g. not a regular PDF or Word file.

For 2020, online availability stands at 65 (out of 100), with Luxembourg, Italy, Germany, Portugal and Croatia scoring above 85, while Slovenia, Poland, France and Denmark scoring below 30; user support stands at 70.7, with Luxembourg, Malta, the Netherlands and Ireland scoring above 95, while Hungary, Poland and Romania scoring below 40; eID stands at 25.3, with Austria, Luxembourg and Malta scoring above 60, while Romania, Poland, Germany, Bulgaria, Ireland and Cyprus lagging behind; eDocuments stands at 48.4, with Finland and Germany leading, while Poland, Romania, Italy and Bulgaria scoring below 20.
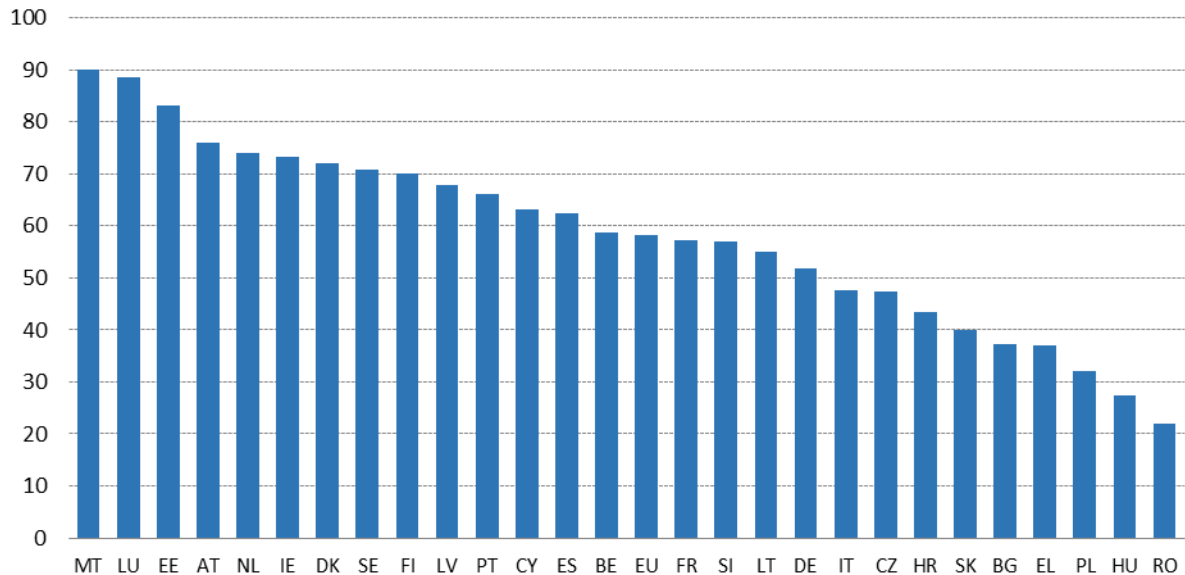
Figure 13 Cross border services (Score 0 to 100), 2020
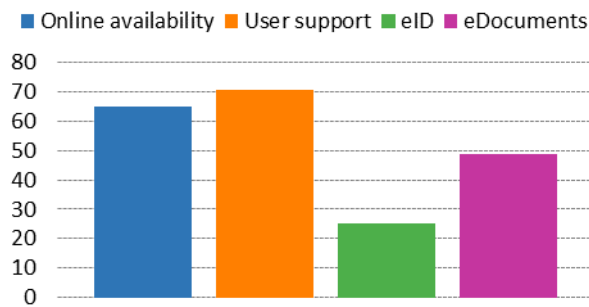
Source: eGovernment Benchmark, Capgemini

Malta, Luxembourg, Estonia and Austria lead the EU in this measure, all scoring more than 75 points. The countries with less cross-border flexibility and advancement are Romania, Hungary, Poland and Greece and Bulgaria, all of which have scores below 40.

Figure 14 Cross border services status in Member States (Score 0-100), 2020

Source: eGovernment Benchmark, Capgemini.