



Questions and Answers: Digital Economy and Society Index (DESI) 2021

Brussels, 12 November 2021

Part I – Results of DESI 2021

What is the Digital Economy and Society Index, and what does it measure?

The Digital Economy and Society Index (DESI) is an annual report published by the European Commission that monitors the progress of EU Member States' on digital. This report includes country profiles, which help Member States identify areas for priority action, and thematic chapters providing an EU-level analysis in the four principal policy areas, which group 33 indicators:

- | | |
|-------------------------------------|--|
| 1 Human capital | Internet user skills and advanced digital skills |
| 2 Connectivity | Fixed broadband take-up, fixed broadband coverage, mobile broadband and broadband prices |
| 3 Integration of digital technology | Business digitalisation and e-commerce |
| 4 Digital public services | e-Government |

DESI 2021 has been adapted to reflect the [Digital Decade Compass](#), which sets out Europe's ambition on digital, laying out a vision for the digital transformation and concrete targets for 2030 in the four cardinal points: skills, infrastructures, digital transformation of businesses and public services.

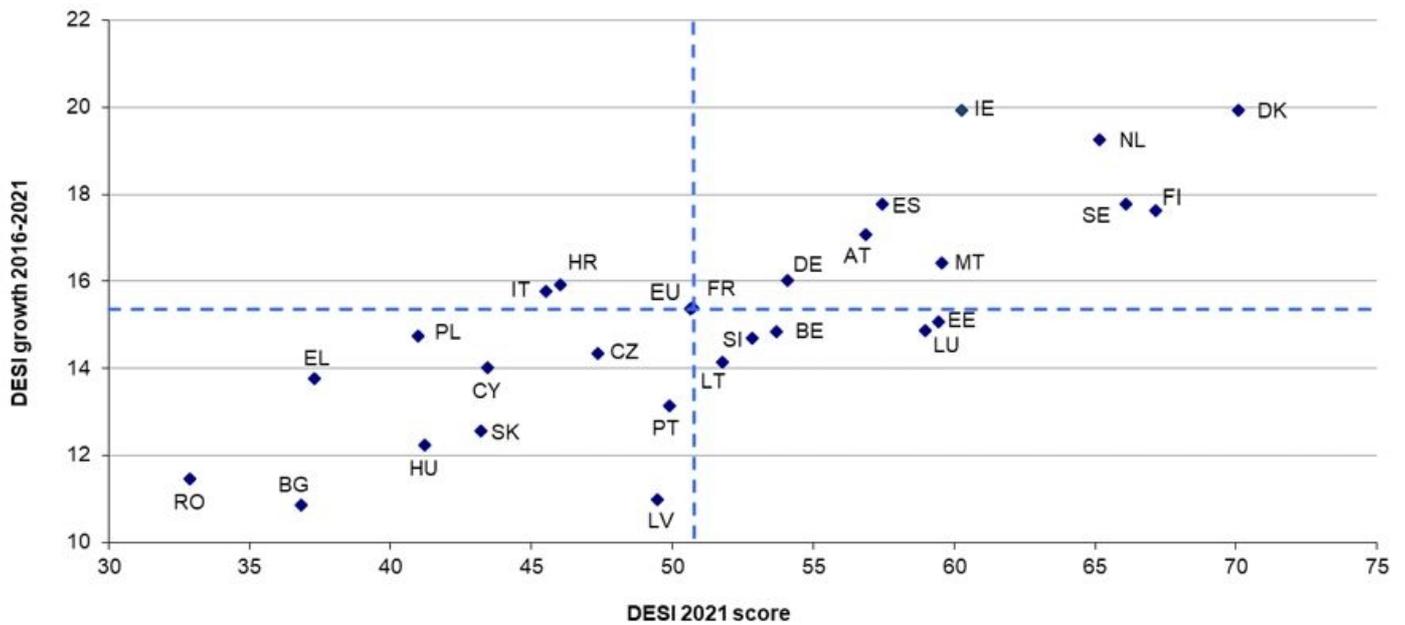
The [Path to the Digital Decade](#), the policy programme proposed on 15 September 2021, sets out a novel form of governance with Member States, through a mechanism of annual cooperation between EU institutions and the Member States to ensure they jointly achieve ambitions. With this, the monitoring of the Digital Decade targets will be assigned to DESI. As a result, DESI indicators are now structured around the 4 cardinal points of the Digital Decade Compass.

The DESI country reports incorporate a summary overview of the digital investments and reforms in the **Recovery and Resilience Plans** for the 22 plans that have already been approved by the Commission. The EU Member States have committed to spend at least 20% of their national endowments from the Recovery and Resilience Plan on digital and so far, Member States are meeting or largely exceeding this target.

What is the overall performance of EU Member States in digital according to this year's DESI?

The most significant progress as compared to last year can be seen in Ireland and Denmark, followed by the Netherlands, Spain, Sweden and Finland. These countries also perform well above the EU DESI average, based on their scores in DESI 2021.

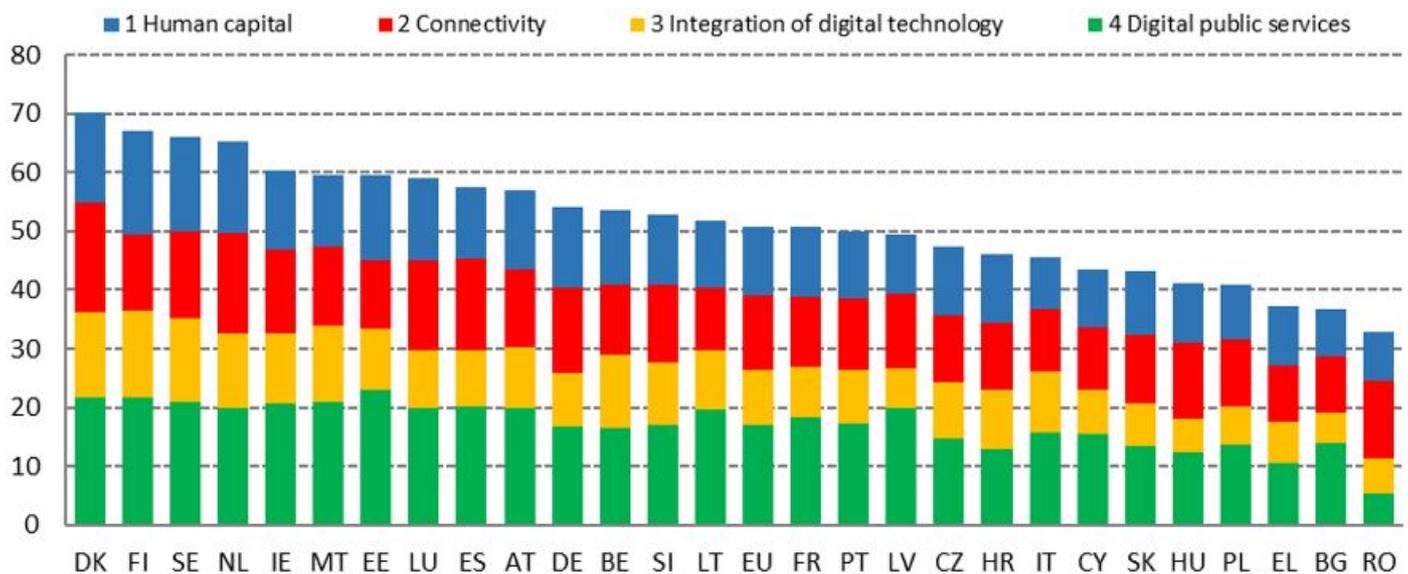
Digital Economy and Society Index – Member States' progress, 2016-2021



Source: DESI 2021, European Commission.

Overall, Denmark, Finland, Sweden and the Netherlands have the most advanced digital economies in the EU, followed by Ireland, Malta and Estonia. Romania, Bulgaria and Greece have the lowest DESI scores.

Digital Economy and Society Index, 2021



Source: DESI 2021, European Commission.

Main findings of DESI 2021 in the 4 areas

Human capital

As part of the commitments put forward in the EU's [2030 Digital Compass](#), the digital skills target aims for at least 80% of EU citizens to have basic digital skills by 2030. While 84% of people used the internet regularly in 2019, only 56% had at least basic digital skills in that same year. A large part of the EU population lacks digital skills, but there are country-specific differences: the Netherlands and Finland are the frontrunners in this area, while Bulgaria and Romania are lagging behind. Moreover, a rate of 56% of the population having digital skills is only a slight increase (two percentage points) since 2015, representing a yearly growth rate of only 0.9%. This growth rate needs to increase threefold to reach the 2030 target of 80%.

According to the Communication on the [2030 Digital Compass](#), the number of ICT specialists in the EU should reach at least 20 million by 2030, compared to 8.4 million in 2020 (corresponding to 4.3% of the labour force). Although there has been steady growth since 2013, an acceleration is needed to reach the target. Notable leaders in this category are Finland, with 7.6%, and Sweden, with 7.5% of the workforce respectively that have the highest proportion of ICT specialists in the labour force.

Connectivity

The [2030 Digital Compass](#) also sets the target that gigabit networks should be available to all by 2030. According to the data from 2020, only 59% of households can benefit from fixed very high capacity network (VHCN) connectivity with the potential of offering gigabit connectivity. Rural VHCN also improved – from 22% in 2019 to 28% in 2020 – but a large gap between rural and national figures remains. Malta, Luxembourg, Denmark and Spain are the European leaders on total VHCN coverage (all with more than 90% of homes covered). By contrast, in Greece, less than 1 in 5 households have access to VHCN.

By 2030, the EU aims for all populated areas to have 5G coverage. As of mid-2020, commercial 5G network deployments started in 13 Member States, and coverage reached 14% at EU level. The Netherlands and Denmark are the most advanced countries in this area, with 80% coverage. A precondition for the commercial launch of 5G is the assignment of 5G spectrum in every country, and by 31 August 2021, 25 Member States had already assigned 5G spectrum in at least one of the three 5G pioneer bands.

Integration of digital technology

The aim of the EU's [Digital Compass](#) is that, by 2030, at least 90% of small and medium-sized enterprises (SMEs) in the EU should use digital technologies at enterprise level. In 2020, only 60% of SMEs have adopted digital technologies. Denmark and Finland are already very close to the EU target with 88%, while Bulgaria and Romania are falling behind (33%).

The second target for the next ten years: at least 75% of companies should use advanced digital technologies such as Artificial Intelligence (AI), cloud and big data technologies by 2030. The DESI 2021 demonstrates that, while businesses are becoming more and more digitalised, the use of advanced digital technologies remains low; for example, only one in four companies use AI or cloud computing and 14% use big data. In this area, Finland and Sweden lead on the use of cloud, Malta and the Netherlands on big data, and Czechia and Austria on AI.

Digital public services

The [Digital Compass](#) sets the target that all key public services for citizens and businesses should be fully online by 2030. Such key services span a broad range from studying to, purchasing a car and to starting a business amongst other things.

The DESI monitors the online provision of public services by giving each Member State a score on whether or not it is possible to complete each step of key services completely online. Estonia, Denmark, Finland and Malta have the highest scores for digital public services in DESI, while Romania and Greece have the lowest.

In 2020, 64% of internet users interacted with public administration online, compared to 58% in 2015. The online availability of public services has grown steadily over the last decade, and accelerated greatly as a result of the COVID-19 pandemic, during which digital interaction became prevalent. A number of Member States are already close to this target, but progress is uneven across and within Member States, with services for citizens less likely to be available online compared to services for businesses.

How are the EU's targets for the 2030 Digital Decade reflected in this year's DESI, and will that change in coming years?

11 of the 33 DESI 2021 indicators measure the progress made towards reaching some of the Digital Compass targets. Going forward, DESI will be further aligned with the Digital Compass to ensure that all targets are considered in the report. As a part of the structured cooperation with Member States contained in the [proposal](#) on the Path to the Digital Decade' policy programme, a monitoring system based on DESI would measure progress towards the 2030 targets, and it would be accompanied by an annual report on the 'State of the Digital Decade', in which the Commission will evaluate progress and provide recommendations for actions.

Digital Compass targets in DESI 2021 in relation to the four dimensions of the index

DESI dimension	DESI indicators related to the 2030 Digital Decade target	Digital Compass targets
-----------------------	--	--------------------------------

1 Human capital	At least basic digital skills	ICT Specialists: 20 million & Gender convergence
	ICT specialists Female ICT specialists	Basic Digital Skills: minimum 80% of population
2 Connectivity		Connectivity: Gigabit for everyone, 5G everywhere
	Gigabit for everyone (Fixed very high capacity network coverage)	Cutting edge semiconductors: double EU share in global production
	5G coverage	Data - Edge & Cloud: 10,000 climate neutral highly secure edge nodes
3 Integration of digital technology		Computing: first computer with quantum acceleration
	SMEs with a basic level of digital intensity	Technology up-take: 75% of EU companies using Cloud/AI/Big Data
	AI	Innovators: grow scale-ups & finance to double EU unicorns
	Cloud Big data	Late adopters: more than 90% of SMEs reach at least a basic level of digital intensity
4 Digital public services	Digital public services for citizens	Key Public Services: 100% online e-Health: 100% of citizens having access to medical records
	Digital public services for businesses	Digital Identity: 80% of citizens using digital ID

Are you publishing the International Digital Economy and Society Index (I-DESI) this year?

We are not publishing the I-DESI as this is published every second year only. The last I-DESI report was published in 2020.

Part II - DESI methodology

What are the sources of data?

The majority of DESI indicators come from [Eurostat](#), the statistical office of the European Union. Some broadband indicators are collected by the services of the European Commission from the Member States through the Communications Committee. Other indicators, such as some e-government and broadband indicators, are based on data derived from studies prepared for the Commission. The full list of indicators, exact definitions and sources is available [here](#).

Contributing data is also taken from the [eGovernment Benchmark 2021](#), which surveys citizens in 36

European countries on their use of digital government services. The Commission is also publishing the 2021 [women in digital scoreboard](#), which confirms that there is still a substantial gender gap in specialist digital skills. Only 19% of ICT specialists and about one third of science, technology, engineering and mathematics graduates are female.

Another relevant report published today is a survey on the contribution of [ICT to the environmental sustainability actions of EU enterprises](#), which reveals that more than half of surveyed companies said that they use ICT solutions as a way of reducing their environmental footprint. The Commission is also publishing today studies on [Mobile and Fixed Broadband Prices in Europe 2020](#), [Broadband Coverage up to June 2020](#), and [on national broadband plans](#).

How is the DESI score calculated?

To calculate a country's overall score, the Commission gives a specific weighting to each set and subset of indicators. Weights are also assigned at the sub-dimension and individual indicator level. Compared to the previous edition of the report, mobile broadband has a higher weight, as 5G coverage is now included in the index. For the integration of digital technology dimension, a new sub-dimension has been added to report on the target on digital intensity. In addition, the weight of the digital technologies for businesses sub-dimension has been increased, as this sub-dimension includes 3 indicators measuring targets of the [2030 Digital Compass](#). The majority of individual indicators within each sub-dimension were considered of equal importance and therefore weighted equally within the respective sub-dimension. However, indicators measuring the targets of the 2030 Digital Compass were considered to have higher importance and they therefore have double weights within their sub-dimension. More details are available in the [DESI methodological note](#).

Has anything changed in terms of methodology in comparison to the 2020 edition of DESI?

The structure of the DESI has been aligned with the four cardinal points of the Digital Compass, and the indicator list has been revised to include as many indicators that are proposed in the Digital Compass as possible.

Why do you no longer include the indicator on the 'use of internet' like you have in previous years?

The dimension on the use of internet has been dropped from the analysis this year as one of the key policy areas, as the structure of the DESI is being aligned to reflect that of the Digital Compass. Indicators that were reported in this dimension of the index, however, are still collected and published in the [data visualisation tool](#).

Part III: Recovery and Resilience Facility (RRF) and DESI

How are the national RRF plans reflected in the analysis that you have published?

The DESI country reports analyse the performance of EU Member States based on the index, identify their key challenges, and then describe the most important digital policy initiatives per country. Given the scale and importance of the RRF, and the crucial role that this funding can play in addressing these challenges, the DESI country reports include a summary of the digital aspects of the national recovery and resilience plans, where these have been approved.

When will you publish information on the remaining EU Member States on the RRF?

Once the Commission completes the analysis of a national recovery and resilience plan, it publishes its assessment.

For More information

[Press release](#) - Digital Economy and Society Index 2021: overall progress in digital transition but need for new EU-wide efforts

[Digital Economy and Society Index](#)

[Country performance in digital](#)

[Data Visualisation Tool](#)

[DESI 2021 methodology](#)

[2021 PREDICT Key Facts report: latest figures from ICT and R&D](#)

[Communication on Shaping Europe's Digital Future](#)

Press contacts:

[Johannes BAHRKE](#) (+32 2 295 86 15)

[Marietta GRAMMENO](#) (+32 2 298 35 83)

General public inquiries: [Europe Direct](#) by phone [00 800 67 89 10 11](#) or by [email](#)