Digital Economy and Society Index (DESI) 2020 Questions and Answers

Brussels, 11 June 2020

I – Results of DESI 2020

What is the Digital Economy and Society Index?

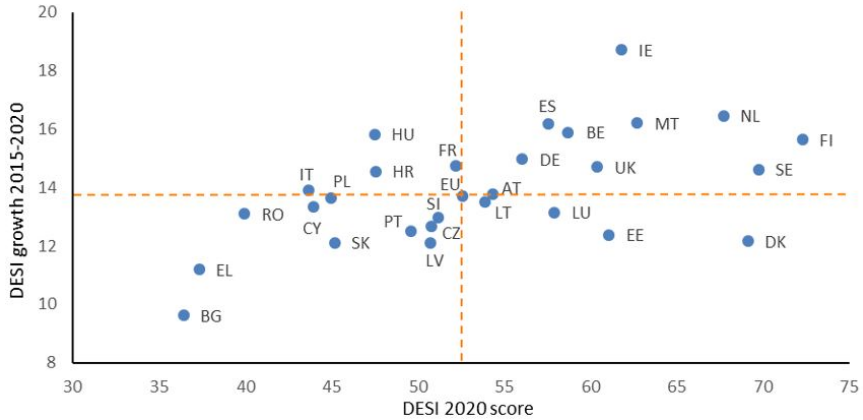
The Digital Economy and Society Index (DESI) is a composite index published annually by the European Commission since 2014. It measures the progress made by EU Member States towards a digital economy and society, bringing together a set of relevant indicators. The DESI is composed of five principal policy areas, which group 37 indicators overall:

1 Connectivity	Fixed broadband take-up, fixed broadband coverage, mobile broadband and broadband prices
2 Human capital	Internet user skills and advanced skills
3 Use of internet	Citizens' use of internet services and online transactions
4 Integration of digital technology	Business digitisation and e-commerce
5 Digital public services	e-Government

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

The following chart shows the progress of the EU Member States as regards the overall level of digitisation of the economy and society over the last 5 years. It is measured in terms of the progression of their DESI score over that period of time.

Digital Economy and Society Index – Member States' progress, 2015-2020



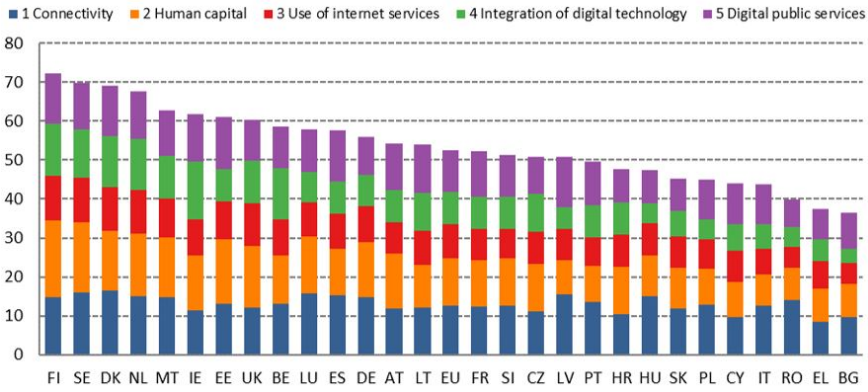
The most significant progress is noted in Ireland, followed by the Netherlands, Malta and Spain. These countries also perform well above the EU average as measured by the DESI score.

Finland and Sweden are amongst the leaders in overall performance in digital, but in terms of progress made over the last five years, they are just slightly above average, together with Belgium and Germany.

Denmark, Estonia and Luxembourg show a relatively low level of progress in digitisation over the last five years, even though they remain amongst the high performing Member States in the overall DESI ranking.

However, the majority of the countries, which are below the EU average in the level of digitisation, have not progressed significantly in the last five years.

Digital Economy and Society Index, 2020

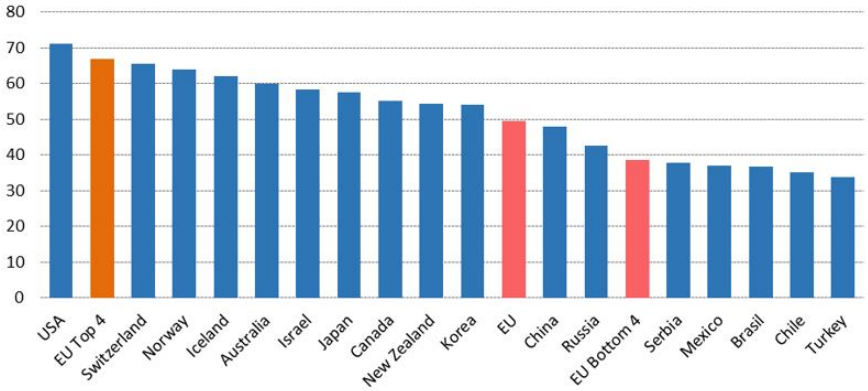


Finland, Sweden, Denmark and the Netherlands have the most advanced digital economies in the EU followed by Malta, Ireland and Estonia. Bulgaria, Greece, Romania and Italy have the lowest scores on the index.

How does the EU compare to other digitised countries worldwide?

The Commission compares the digital performance of EU countries with 17 non-EU countries. The International DESI (I-DESI) evaluates the performance of both the individual EU countries and the EU as a whole in comparison to Australia, Brazil, Canada, Chile, China, Iceland, Israel, Japan, South Korea, Mexico, New Zealand, Norway, Russia, Serbia, Switzerland, Turkey and the United States. The top four EU countries (Finland, Sweden, the Netherlands and Denmark) are among the global leaders. They are just behind the US and have higher scores than Korea and Japan. At the same time, the comparison shows that the EU's average in digital performance is lower than the aforementioned three countries.

International Digital Economy and Society Index, based on 2018 data



I-DESI includes the same five dimensions as the DESI, but it is built on a slightly different set of indicators due to some of the DESI indicators not being available in non-EU countries. As a result, the I-DESI rankings and scores are slightly different to those of the DESI. The I-DESI study report will be published in September 2020.

Main findings of DESI 2020 in the 5 digital areas

Broadband connectivity

Access to a fast and reliable broadband connection (including fixed and mobile connections) is crucial in the light of the ongoing coronavirus pandemic, in which key societal and economic services are delivered online. A modern and robust digital infrastructure provides the necessary coverage for these services. During the crisis, networks have faced a significantly increased demand, whilst at the same time having to ensure that broadband-enabled services can be used.

Overall connectivity has improved, as far as both demand and supply are concerned. **In 2019, next generation access (NGA) coverage increased to 86% of households** compared to 83% a year before, while **fixed very high capacity networks (VHCNs) are available to 44%** of households. VHCNs are provided either on FTTP (Fiber to the Premises) or DOCSIS 3.1 (Data Over Cable Service Interface Specification) cable networks. Malta, Denmark and Luxembourg lead on VHCNs with coverage of at least 90% of homes. Across Europe 78% of households had a fixed broadband subscription in 2019, up from 70% 5 years ago. Over a period of 5 years, more and more people are taking up broadband services of at least 100 Mbps, now with a current level of 26% of households, five times higher than five years ago. 4G networks cover almost the entire European population, but **little**

progress has been registered on 5G spectrum assignments. Only 17 Member States have already assigned spectrum in the 5G pioneer bands. Finland, Germany, Hungary and Italy are the most advanced on 5G readiness. In the Connectivity dimension overall, Denmark, Sweden and Luxembourg have the highest scores.

Human capital – digital skills

Digital skills are the backbone of the digital society. They enable people to use digital services and engage in activities online, especially when mobility is restricted. The coronavirus crisis has shown that adequate digital skills can empower citizens to access crucial information and services. In the current circumstances, it is particularly relevant to staff working in healthcare systems and public servants as well as to teachers and professors and their students. Basic and advanced digital skills need to be strengthened in school curricula across the academic offering in EU Member States. Similarly, digital skills are essential for the effective use of solutions for distance learning, including support to schools and families, with particular attention to those at risk of social exclusion (e.g. by making hardware equipment as well as training available).

In the past year, there was a slight improvement in internet user skills (at least basic digital skills) and somewhat greater progress in advanced skills (ICT graduates and ICT specialists). **In 2019, the percentage of people that have at least basic digital skills reached 58% (up from 55% in 2015). A large part of the EU population, however, still lacks basic digital skills, even though most jobs require such skills.** In 2018, some 9.1 million people worked as ICT specialists across the EU, 1.6 million more than 4 years earlier. Nevertheless, **there remains a shortage of ICT specialists on the labour market: 64% of large enterprises and 56% of SMEs that recruited ICT specialists during 2018, reported that vacancies for ICT specialists are hard to fill.** The problem is even more widespread in Romania and Czechia, where at least 80% of enterprises that either recruited or tried to recruit ICT specialists reported such difficulties. There is also a gender balance issue as only one in six ICT specialists is female. Overall, in the Human capital dimension of the DESI, Finland, Sweden and Estonia are the most advanced.

Internet use of citizens

Internet use by individuals has soared during the pandemic. Generalised confinement has led to recurring access to social media and entertainment platforms as well as to teleworking, e-commerce, e government services and distance learning.

This trend was already in place prior to the pandemic, as internet use continued to increase year-on-year with 85% of Europeans surfing the internet at least once per week (up from 75% in 2014). In this category, figures range from 67% in Bulgaria to 95% in Denmark. **The use of video calls has grown the most, from 49% of internet users in 2018 to 60% in 2019**. Internet banking and shopping are also more popular, being used by 66% and 71% of internet users respectively. In contrast, **only 11% of Europeans completed a course online in 2019.**

As EU economies gear up for recovery, ensuring that these possibilities remain in place will be a priority and a better telecoms infrastructure will play a key role in this.

Integration of digital technology by businesses

In the context of the physical distancing measures that were introduced around the globe, businesses had to adapt by implementing alternative working arrangements. Small and medium businesses (SMEs) that have not incorporated digital solutions find it challenging to provide their staff with the possibility to work from home. One of the many obstacles to the digitisation of SMEs is the digital knowledge gap, which is caused by low levels of digital literacy among owners, managers and employees. Addressing these shortcomings will be vital to ensure a robust recovery.

Just prior to the pandemic, the data on the integration of digital technologies by businesses showed large variations depending on the company size, sector and also the Member State. **Enterprises were becoming more and more digitised, with large companies taking the lead. 38.5% of large companies relied already on advanced cloud services and 32.7% were using big data analytics**. **However, the vast majority of SMEs reported that they were not yet using these technologies**, with only 17% of them using cloud services and only 12% big data analytics. The highest-ranked countries, with regard to these indicators, are Malta with 24% of companies using big data and Finland with 50% relying on cloud services. As for e-commerce, only 17.5% of SMEs sold products online in 2019, following a very slight increase of 1.4 percentage points compared to 2016. In contrast, 39% of large enterprises made use of online sales in 2019. The top EU performers in the digitisation of businesses are Ireland, Finland, Belgium and the Netherlands.

Digital public services

The coronavirus crisis shows how important it is to ensure the continuation of public services when social distancing measures are in place. A successful exit strategy to the current pandemic will require

robust digital public services throughout EU Member States, including in the field of e-health, such as telemedicine, electronic prescriptions and medical data exchange, and the use of advanced technologies to enhance public services, for example though big data or AI technologies.

Prior to the pandemic there was an upward trend in digital public services. In 2019 **both the quality and usage of digital public services increased**. 67% of people who otherwise use the internet who submitted forms to their public administration reported that they now use online channels (up from 57% in 2014), which shows the growing convenience of online procedures over paper-based ones. The top performers in this area are Estonia, Spain, Denmark, Finland and Latvia.

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 Commission services 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.

How is the DESI score calculated?

To calculate a country's overall score, the Commission experts gave a specific weighting to each set and subset of indicators. Connectivity and digital skills ('human capital'), each contribute to 25% of the total score. The integration of digital technology accounts for 20%, since the use of ICT by businesses is one of the most important drivers of growth. Finally, the use of internet services by citizens and digital public services dimensions each contribute to 15%. More details are available in the DESI methodological note.

What has changed in the DESI methodology compared to 2019?

To improve the methodology of the index and to take account of the latest technological developments, a number of changes were made to the 2020 edition of DESI, which now includes fixed very high capacity network (VHCN) coverage. In comparison to last year, e-Health indicators are not part of this year's index, as no new data are available.

How did the improved methodology affect the ranking of last year?

To reflect the changes relating to the choice of indicators and corrections made to the underlying data, the DESI was re-calculated for all countries for previous years. Country scores and rankings have therefore changed compared with previous publications.

For More Information

Press release: New Commission report shows the importance of digital resilience in times of crisis

The Digital Economy and Society Index - DESI 2020

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