



The Digital Economy and Society Index 2017

The Digital Economy and Society Index (DESI) is a composite index that summarises relevant indicators on Europe’s digital performance and tracks the progress of EU Member States in digital competitiveness.

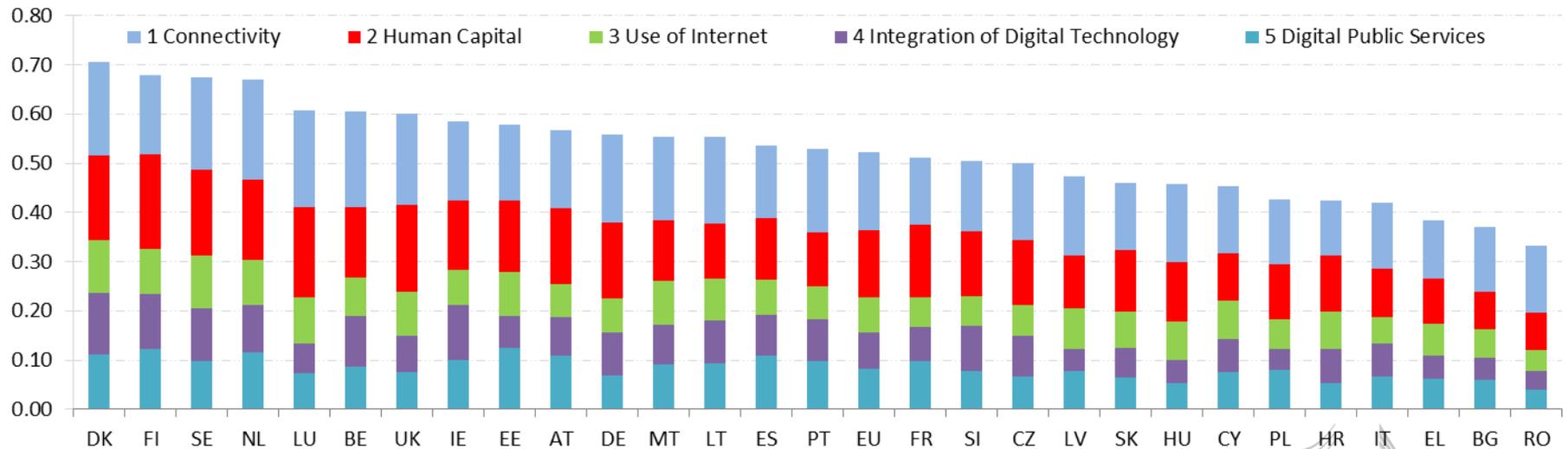
Denmark, Finland, Sweden and the Netherlands have the most advanced digital economies in the EU followed by Luxembourg, Belgium, the UK and Ireland.

Romania, Bulgaria, Greece and Italy have the lowest scores on the index.

The five dimensions of the DESI

1 Connectivity	Fixed Broadband, Mobile Broadband, Broadband speed and prices
2 Human Capital	Basic Skills and Internet Use, Advanced skills and Development
3 Use of Internet	Citizens' use of Content, Communication and Online Transactions
4 Integration of Digital Technology	Business digitisation and eCommerce
5 Digital Public Services	eGovernment

Digital Economy and Society Index (DESI) 2017 ranking



DESI 2017: Europe improves but still needs to close digital gap (1)

- **Connectivity**

- 76% of European homes can access high-speed broadband (at least 30 Mbps) and in some Member States a significant proportion of these households can already access networks capable of providing 100 Mbps or more. Over 25% of households have taken up a subscription to fast broadband.
- Mobile data subscriptions are increasing: from 58 subscribers per 100 people in 2013 to 84 in 2016.
- 4G mobile services cover 84% of the EU population.

- **Human Capital**

- The EU has more graduates in Science, Technology, Engineering and Mathematics than before (19 graduates per 1000 people in their 20s).
- There are more ICT specialists in the workforce (3.5% in 2015 as opposed to 3.2% in 2012).
- Almost half of Europeans (44%) still lack basic digital skills such as using a mailbox, editing tools or installing new devices.

DESI 2017: Europe improves but still needs to close digital gap (2)

• Use of Internet

- 79% of Europeans go online at least once per week, up by 3 percentage points on 2016
- 78% of internet users play or download music, films, pictures or games.
- 70% of European internet users read news online (64% in 2013).
- 63% use social networks (57% in 2013).
- 66% shop online (61% in 2013).
- 59% use online banking (56% in 2013).
- 39% use internet to make calls (33% in 2013).

• Integration of technology by businesses

- European businesses are increasingly adopting digital technologies, such as
 - the use of business software for electronic information sharing (from 26% in 2013 to 36% of businesses in 2015) or
 - sending electronic invoices (from 10% in 2013 to 18% of in 2016).
- E-commerce by SMEs also grew slightly (from 14% in 2013 to 17% of SMEs in 2016). However, less than half of these companies sell to another EU Member State.

• Digital public services

- 34% of internet users submitted forms to their public administration online instead of handing in a paper copy (up from 27% in 2013).

As for **Connectivity**, the highest score was registered by the Netherlands followed by Luxembourg and Belgium. Croatia, Bulgaria and Poland had the weakest performance in this dimension of the DESI.

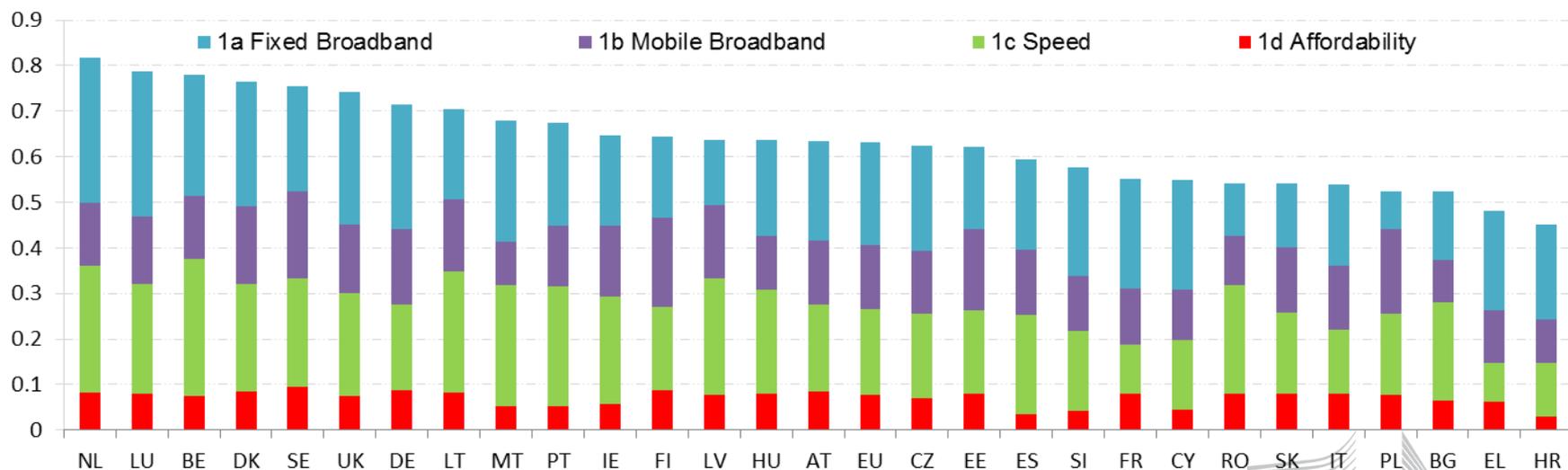
The Connectivity dimension looks at both the demand and the supply side of fixed and mobile broadband. Under fixed broadband it assesses the availability as well as the take-up of basic and high-speed next-generation access (NGA) broadband and also considers the affordability of retail offers. On mobile broadband, the availability of 4G, radio spectrum and the take-up of mobile broadband are included.

Regarding basic fixed broadband, Luxembourg, the Netherlands and the UK are the strongest, and Poland, Romania, Slovakia and Latvia the weakest. NGA subscriptions are particularly advanced in Belgium, Romania, the Netherlands and Portugal.

As for mobile broadband, the Nordic countries (Finland, Sweden and Denmark) lead along with Estonia and Poland, while the lowest figures were registered by Bulgaria, Malta and Croatia.

Connectivity Indicators in DESI 2017		EU
1a1 Fixed Broadband Coverage		98%
% households		2016
1a2 Fixed Broadband Take-up		74%
% households		2016
1b1 Mobile Broadband Take-up		84
Subscriptions per 100 people		June 2016
1b2 4G coverage		84%
% households (average of operators)		2016
1b3 Spectrum		68%
% of the target		2016
1c1 NGA Coverage		76%
% households		2016
1c2 Subscriptions to Fast Broadband		37%
% subscriptions >= 30Mbps		June 2016
1d1 Fixed Broadband Price		1.2%
% income		price 2016, income 2015

Digital Economy and Society Index (DESI) 2017, Connectivity

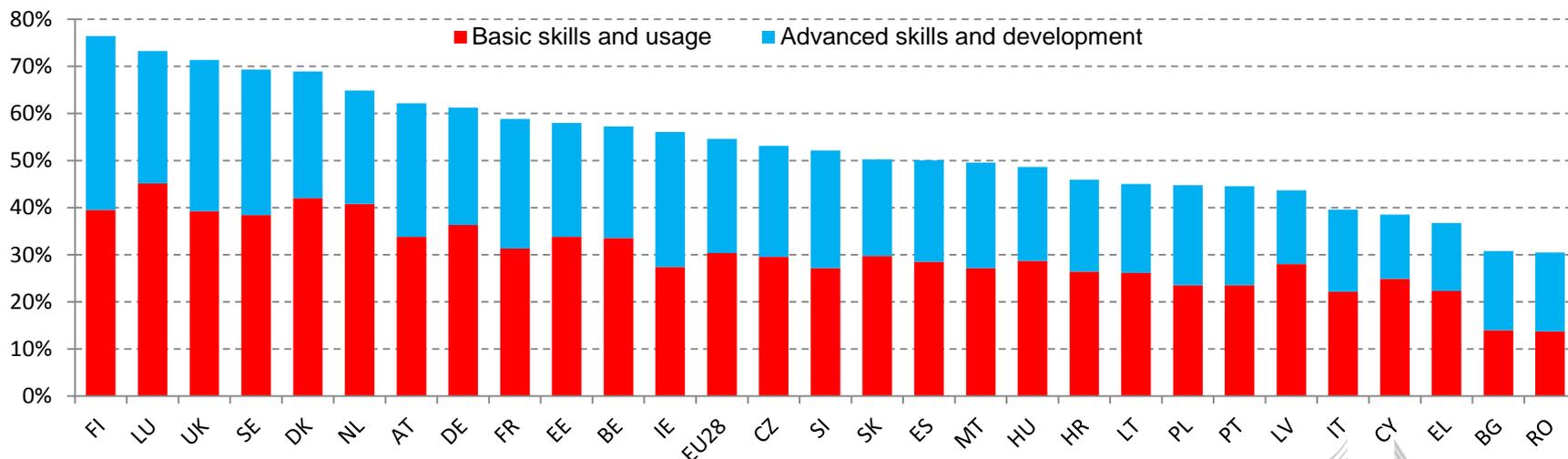


For the **Human Capital** dimension, the highest scores were achieved by Finland, Sweden, the United Kingdom and Luxemburg. The weakest performances in this dimension were recorded for Romania, Bulgaria, Greece, Cyprus and Italy.

The Human Capital dimension of DESI has two sub-dimensions covering 'basic skills and usage' and 'advanced skills and development'. The former includes indicators on internet use by individuals and digital skills - individuals with at least basic skills in the Digital Skills Indicator. The latter includes indicators on ICT specialist employment and graduates in STEM (Science, Technology Engineering and Mathematics) disciplines. According to 2016 data, Estonia, Finland, the Netherlands and Denmark were the highest scorers under both the basic skills and usage and advanced skills and development sub-dimensions. Romania, Bulgaria, Greece and Cyprus rank lowest overall on the Human Capital dimension of DESI.

	EU 28
2a1 Internet Users	79.2%
% individuals (aged 16-74)	(2016)
2a2 Basic Digital Skills	56.2%
% individuals (aged 16-74)	(2016)
2b1 ICT Specialists	3.5%
% employed individuals	(2015)
2b2 STEM Graduates	18.7
Graduates in STEM per 1000 individuals (aged 20 to 29)	(2014)

Digital Economy and Society Index (DESI) 2017, Human Capital



Source: European Commission, Digital Scoreboard

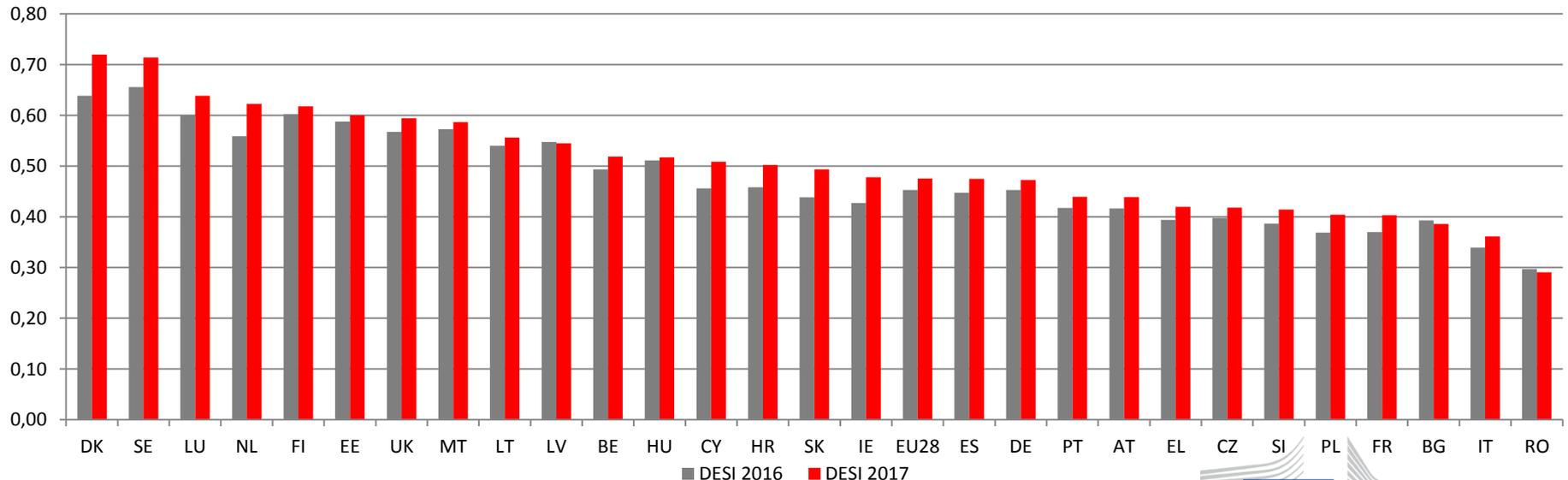
Use of Internet by EU citizens: People engage in a range of online activities. Highest scores were recorded in Denmark and Sweden, while the lowest in Italy and Romania.

People in the EU engage in a **range of online activities** — they consume content, communicate, shop, use online banking services and much more. Such activities are captured in DESI dimension 3, on internet use. Denmark, Sweden and Luxemburg have the most active internet users, followed by the Netherlands, Finland and Estonia. Romania, Italy and Bulgaria are the least active. **Denmark and the Netherlands showed the biggest increases** in their DESI scores, +8 pp. and +7 pp. respectively between DESI 2016 and DESI 2017. With Denmark overtaking Sweden to rank first and the Netherlands increasing its rank from 9th to 4th position. Bulgaria fell in the rankings from joint 22nd (with Greece and Slovenia) to 27th and Romania remained at the bottom of the rankings.

DESI – Use of Internet indicators

News (% individuals aged 16-74)	70% (2016)
Music, videos and games (% individuals aged 16-74)	78% (2016)
Video on demand (% households that have a TV)	21% (2016)
Video calls (% individuals aged 16-74)	39% (2016)
Social networks (% individuals aged 16-74)	63% (2016)
Banking (% individuals aged 16-74)	59% (2016)
Shopping (% individuals aged 16-74)	66% (2016)

Digital Economy and Society Index (DESI) 2017, Use of Internet by citizens



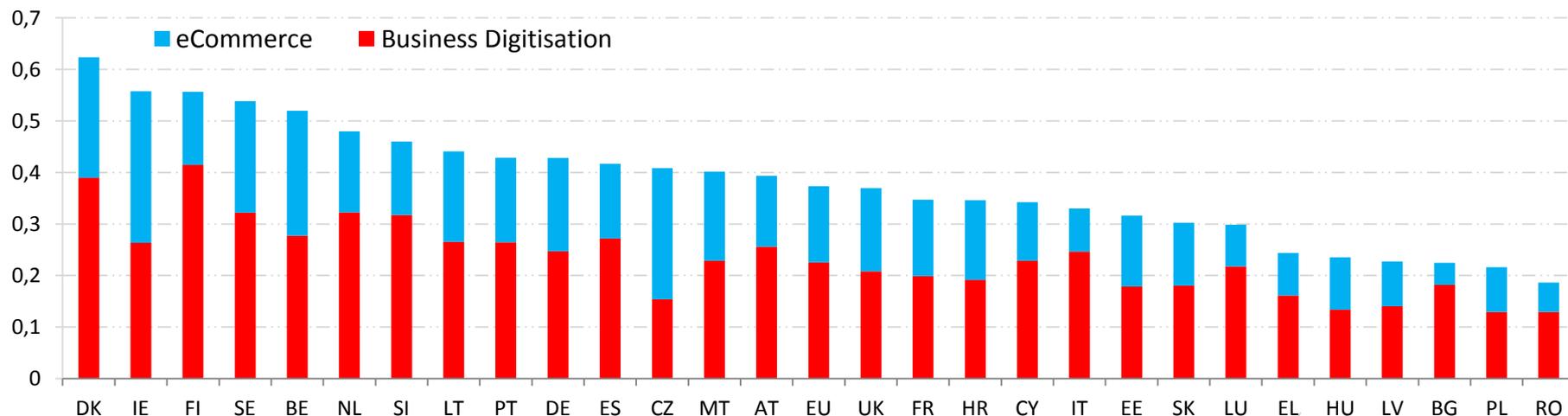
In **Integration of Digital Technology**, Denmark scored highest, followed by Ireland, Sweden and Belgium. Romania, Bulgaria, Poland and Latvia scored lowest.

Integration of Digital Technology covers (a) 'business digitisation' and (b) 'eCommerce'. 'Business digitisation' has five indicators (as % of firms using): electronic information sharing, RFID, social media, eInvoices and cloud solutions. eCommerce has three indicators: the percentage of small and medium-sized enterprises (SMEs) selling online, eCommerce turnover as a percentage of total turnover of SMEs, and the percentage of SMEs selling online cross-border. This DESI dimension is used also to measure the Digital Transformation output in DG GROW scoreboard.

In CZ and IE the driver is eCommerce, whereas the adoption of eBusiness technologies dominate BG, IT, FI and LU performance.

EU28	Value 2017	Value 2016
4a1 Electronic Information Sharing	36%	36%
% enterprises	2015	2015
4a2 RFID	3,9%	3,9%
% enterprises	2014	2014
4a3 Social Media	20% ↑	18%
% enterprises	2016	2015
4a4 eInvoices	18%	na
% enterprises	2016	2015
4a5 Cloud	13%	na
% enterprises	2016	2015
4b1 SMEs Selling Online	17% ↑	16%
% SMEs	2016	2015
4b2 eCommerce Turnover	9,4%	9,4%
% SME turnover	2016	2015
4b3 Selling Online Cross-border	7,5%	7,5%
% SMEs	2015	2015

Digital Economy and Society Index (DESI) 2017, Integration of Digital Technology by businesses



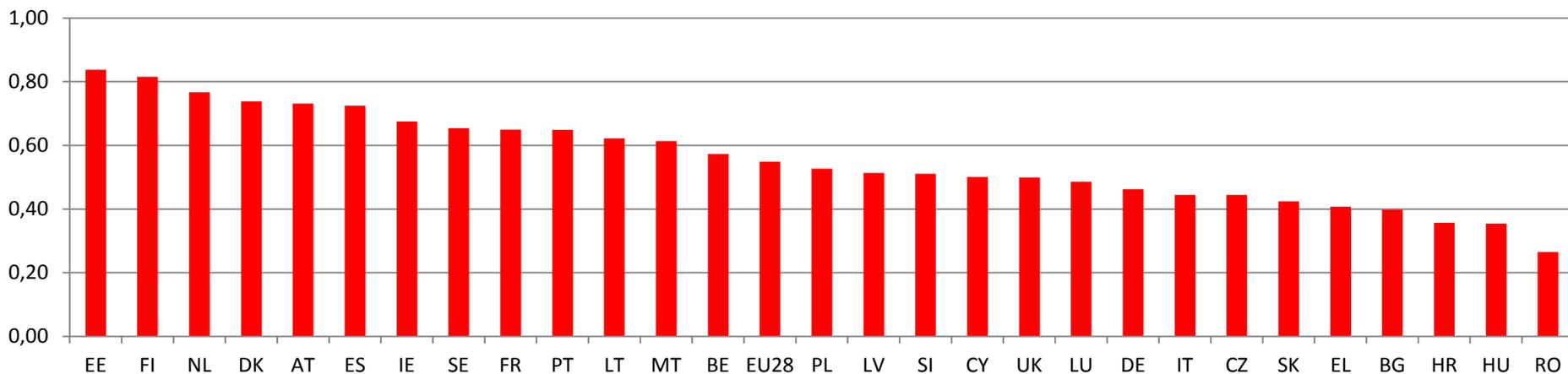
Source: European Commission, Digital Scoreboard

In Digital Public Services, Estonia had highest score, followed by Finland, Netherlands and Denmark. Romania, Hungary and Croatia had the lowest scores.

The Digital Public Services dimension consists of four indicators: the percentage of internet users who have sent completed forms to a public administration via the internet (eGovernment users indicator); the level of sophistication of a country's eGovernment services (the pre-filled forms indicator, which measures the extent to which data that is already known to the public administration is pre-filled in forms presented to the user); the level of completeness of a country's range of eGovernment services (the online service completion indicator, which measures the extent to which the various steps in an interaction with the public administration can be performed completely online), and the government's commitment to open data (open data indicator).

Digital Public Services Indicators in DESI 2017	EU28 value
5a1 eGovernment Users % internet users (last year)	34% 2016
5a2 Pre-filled Forms Score (0 to 100)	49 2016
5a3 Online Service Completion Score (0 to 100)	82 2016
5a4 Open Data % of maximum score	59% 2016

Digital Economy and Society Index (DESI) 2017, Digital Public Services



Source: European Commission, Digital Scoreboard

iDESI: How does the EU compare to other digitised countries worldwide? The top countries in Europe are also leading on the global stage.

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, China, Iceland, Israel, Japan, South Korea, Mexico, New Zealand, Norway, Russia, Switzerland, Turkey and the United States.

Note: the I-DESI is built on a slightly different set of indicators than DESI due to the fact that some DESI indicators are not available in non-EU countries. As a result, the I-DESI rankings and scores are slightly different to those of the DESI.

