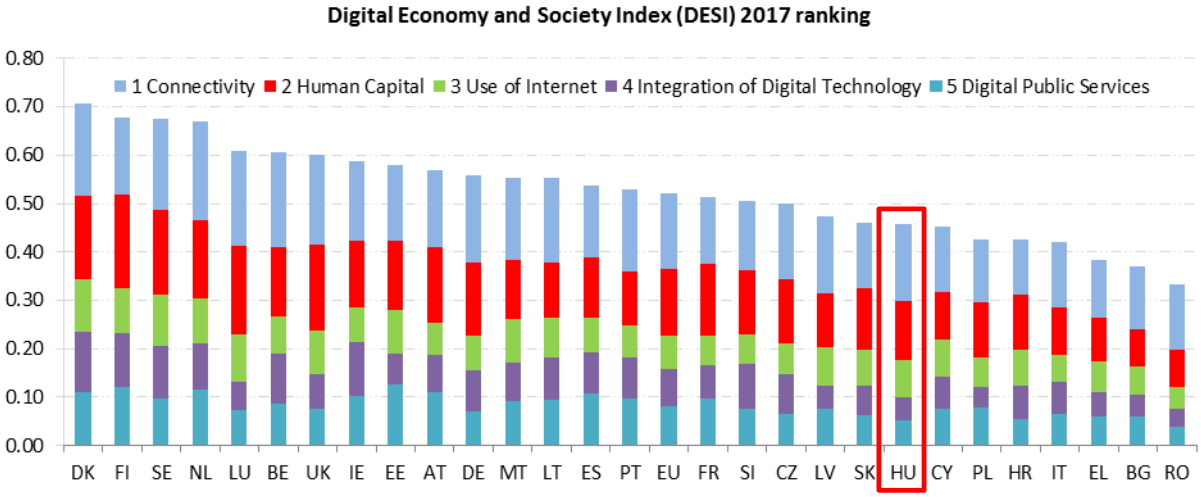
Europe's Digital Progress Report (EDPR) 2017 Country Profile Hungary

Europe's Digital Progress Report (EDPR) tracks the progress made by Member States in terms of their digitisation, combining quantitative evidence from the Digital Economy and Society Index (DESI)[1] with qualitative information on country-specific policies. It is structured around five chapters:

1 Connectivity	Fixed broadband, mobile broadband, broadband speed and prices
2 Human Capital	Internet use, basic and advanced digital skills
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



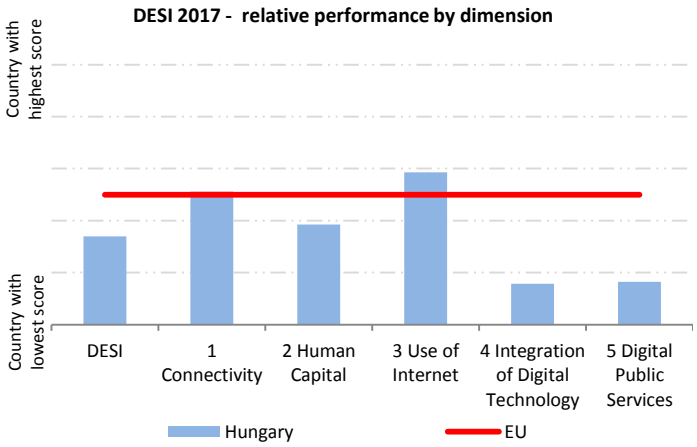
[1] https://ec.europa.eu/digital-single-market/en/desi

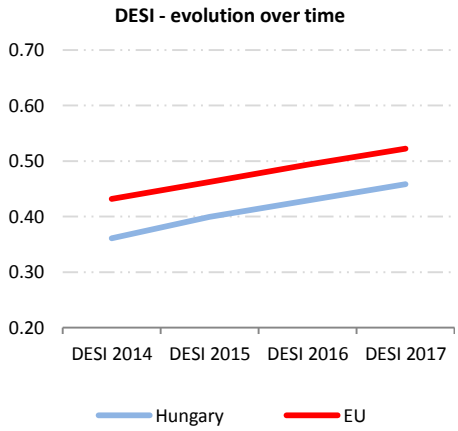
	Hungary		Cluster	EU
	rank	score	score	score
DESI 2017	**21**	**0.46**	**0.41**	**0.52**
DESI 2016[2]	20	0.43	0.38	0.49

Hungary ranks 21st out of the 28 EU Member States. Overall, it progressed at an average pace over the last few years. Hungary performs well on Connectivity, thanks to the wide availability of fast fixed broadband (NGA) and 4G as well as to the increasing broadband take-up on fixed networks. Mobile broadband take-up is, however, not yet accelerating. Hungary improved in digital skills, but stands still slightly below the average. More Hungarian businesses use social media, eInvoices, cloud and eCommerce. Nevertheless, the business sector is not exploiting the opportunities offered by digital technology as much as other countries do, pushing Hungary back in the ranking. As for eGovernment, despite minor improvements in the online provision of public services, Hungary ranks 27th, scoring below the EU average in all aspects.

Hungary belongs to the Low performing cluster of countries[3].

In 2014, Hungary adopted its National Info-communication Strategy 2014-2020[4]. The implementation of the strategy started in 2014, and it was confirmed with the adoption of the Digital Success Programme at the end of 2015, which extends and updates the strategy and defines a large number of actions in all the key areas of the strategy.





[2] The DESI 2016 was re-calculated for all countries to reflect slight changes in the choice of indicators and corrections to the underlying indicator data. As a result, country scores and rankings may have changed from the previous publication. For further information please consult the DESI methodological note at https://ec.europa.eu/digital-single-market/en/desi.

[3] Low performing countries are Romania, Bulgaria, Greece, Italy, Croatia, Poland, Cyprus, Hungary and Slovakia.

[4] http://www.kormany.hu/hu/nemzeti-fejlesztesi-miniszterium/infokommunikacioert-felelos-allamtitkarsag/hirek/infokommunikacios-akciotervet-fogadott-el-a-kormanyf

1 Connectivity

1 Connectivity	Hungary		Cluster	EU
	rank	score	score	score
DESI 2017	**14**	**0.64**	**0.53**	**0.63**
DESI 2016	16	0.60	0.46	0.59

	Hungary					EU
	DESI 2017			DESI 2016		DESI 2017
	value		rank	value	rank	value
1a1 Fixed Broadband Coverage % households	**95%** 2016	→	**22**	**95%** 2015	**21**	**98%** 2016
1a2 Fixed Broadband Take-up % households	**75%** 2016	↑	**10**	**69%** 2015	**16**	**74%** 2016
1b1 Mobile Broadband Take-up Subscriptions per 100 people	**43** June 2016	↑	**28**	**34** June 2015	**28**	**84** June 2016
1b2 4G coverage[5] % households (average of operators)	**92%** 2016		**13**	**NA**		**84%** 2016
1b3 Spectrum[6] % of the target	**65%** 2016	↓	**18**	**68%** 2015	**16**	**68%** 2016
1c1 NGA Coverage % households	**81%** 2016	↑	**16**	**78%** 2015	**15**	**76%** 2016
1c2 Subscriptions to Fast Broadband % subscriptions >= 30Mbps	**55%** June 2016	↑	**10**	**49%** June 2015	**11**	**37%** June 2016
1d1 Fixed Broadband Price[7] % income	**1.1%** price 2016, income 2015	→	**8**	**1.1%** price 2015, income 2015	**10**	**1.2%** price 2016, income 2015

In Connectivity, Hungary scores slightly above the EU average, and ranks 14th, compared to 16th a year ago. Hungary showed progress on a number of indicators. Although fixed broadband coverage remained at 95 % of homes, fast broadband coverage went up to 81 % from 78 % in 2015. In Hungary, there is very strong platform competition between xDSL and cable broadband (about two thirds of homes are covered by cable technology providing at least 30 Mbps in most cases). There was significant progress in the take-up of fixed broadband, which is now aligned with the EU average. More than half of the fixed subscriptions are at least 30 Mbps, as opposed to the EU average of 37%. In contrast, while mobile broadband coverage is above average, take-up is the lowest in Europe. This may be due to the fact that prices for mobile phone users are considerably higher than in the rest of

[5] This is a new DESI indicator measuring the average coverage of telecom operators' 4G networks.

[6] .There is a decrease in most of the Member States due to the additional EU harmonisation of the 700 MHz band in April 2016.

[7] Due to a slight methodological change, historical data was re-calculated.

the EU[8]. At the same time, fixed broadband is affordable at 1.1 % of income (1.2 % in the EU).

The development of digital infrastructure is one of the pillars of the National Info-communication Strategy 2014-2020. The Superfast Internet Programme (SIP) was adopted at the end of 2014. It aims to cover the whole country with NGA networks of at least with 30 Mbps speed by the end of 2018. The programme started in 2015 with a mapping exercise to identify the white areas, where NGA is currently not available. To cover some of the white areas, telecom operators are expected to make the full investment on their own, while for economically not viable areas a state aid scheme has been developed. The programme is co-funded from the European Structural Funds and Hungarian Government except for Budapest and its suburban area, where only domestic resources will be used. The vast majority of projects under the SIP will deploy FTTH technology, which is in line with the Gigabit Society targets[9].

To boost demand, the government has launched two initiatives directly effecting retail prices. First, a preferential VAT rate is applied to broadband subscriptions as of 2017. Second, a "digital welfare basic tariff" trademark has been created to target non-users by offering them a basic broadband package (fixed or mobile) with a 10-15% price discount. In Hungary, 19 % of people (aged 16-74) have never used the internet, which is above the EU average at 14 %.

Measures might be needed to improve the competitive situation in the mobile sector. A fourth mobile network operator (with a limited set of spectrum already acquired in 2014 and 2016) is expected to enter the market in 2017, which may help to reduce mobile broadband prices and increase the take-up rate.

The above initiatives targeting both fixed and mobile markets as well as both demand and supply may further increase the coverage and take-up of broadband in Hungary. The special levies established on the telecom sector may, at the same time, limit the capabilities of telecom operators to invest even if the newly constructed NGA and backhaul optical network sections are for 5 years not subject to infrastructure tax.

[8] See: Mobile Broadband Prices (February 2016), a study prepared for the European Commission by Van Dijk http://ec.europa.eu/newsroom/dae/document.cfm?action=display&doc_id=18583

[9] https://ec.europa.eu/digital-single-market/en/connectivity-european-gigabit-society

2 Human Capital

2 Human Capital	Hungary		Cluster	EU
	rank	score	score	score
DESI 2017	**18**	**0.49**	**0.40**	**0.55**
DESI 2016	18	0.44	0.38	0.53

	Hungary					EU
	DESI 2017			DESI 2016		DESI 2017
	value		rank	value	rank	value
2a1 Internet Users	**78%**	↑	**15**	**72%**	**18**	**79%**
% individuals	2016			2015		2016
2a2 At Least Basic Digital Skills	**51%**	↑	**18**	**50%**	**19**	**56%**
% individuals	2016			2015		2016
2b1 ICT Specialists[10]	**3.6%**	↑	**13**	**3.5%**	**12**	**3.5%**
% of employed individuals	2015			2014		2015
2b2 STEM Graduates	**11**	↑	**26**	**10**	**26**	**19**
Per 1000 individuals (aged 20-29)	2014			2013		2014

On Human capital, Hungary ranks 18th among EU countries slightly below the EU average, and progressed more than the EU on average. The number of internet users has grown by 6 percentage points, which puts Hungary in the 15th place in the EU – getting very close to the EU average - compared to last year's 18th position. There were no significant changes in basic digital skills and in ICT specialists. The number of STEM (Science, technology and Mathematics) graduates also improved slightly, but remained relatively low.

On the basis of the Digital Success Programme, Hungary developed a new Digital Competences Strategy in mid-2016 that addresses the Hungarian education and skills development system at all levels – including life-long learning. The main goal of the strategy is to equip everyone with the basic digital skills necessary for the labour market. Based on a comprehensive analysis it acknowledges the concrete problematic issues throughout the whole spectrum of education and sets out the necessary means and tools for addressing them. The strategy is highly ambitious and aims at – if properly implemented - reaching the EU average by 2018 and exceeding it by 2020. While it identifies the problem itself, the strategy does not offer means to address the low number of STEM graduates. Nevertheless, an EU funded project started recently to promote STEM education. Hungary launched its National Digital Jobs Coalition in December 2016.

The already existing national ICT strategic framework has been further developed in terms of the digital aspects of human capital and its implementation is either already ongoing or planned for 2017. Good cooperation between the public authorities and the relevant market players facilitates the attaining of the strategic goals set out. As to the shortage of skilled IT personnel the government pursues a cross-sectoral approach to safeguarding the future supply of skilled personnel (inter alia through the skilled personnel concept, the partnership for skilled personnel and the skilled personnel offensive).

[10] Historical data have been revised by Eurostat.

3 Use of Internet

3 Use of Internet	Hungary		Cluster	EU
	rank	score	score	score
DESI 2017	**12**	**0.52**	**0.39**	**0.48**
DESI 2016	11	0.51	0.37	0.45

	Hungary					EU
	DESI 2017			DESI 2016		DESI 2017
	value		rank	value	rank	value
3a1 News % individuals who used Internet in the last 3 months	**88%** ↑ 2016		**5**	**86%** 2015	**7**	**70%** 2016
3a2 Music, Videos and Games[11] % individuals who used Internet in the last 3 months	**81%** 2016		**12**	**NA**		**78%** 2016
3a3 Video on Demand[12] % individuals who used Internet in the last 3 months	**8%** 2016		**24**	**NA**		**21%** 2016
3b1 Video Calls % individuals who used Internet in the last 3 months	**54%** ↓ 2016		**7**	**55%** 2015	**5**	**39%** 2016
3b2 Social Networks % individuals who used Internet in the last 3 months	**83%** → 2016		**1**	**83%** 2015	**1**	**63%** 2016
3c1 Banking % individuals who used Internet in the last 3 months	**44%** ↓ 2016		**22**	**46%** 2015	**20**	**59%** 2016
3c2 Shopping % internet users (last year)	**48%** ↑ 2016		**20**	**47%** 2015	**20**	**66%** 2016

In general, Hungarian internet users engage in a broad range of activities online. Hungary scores above the EU average in the Use of Internet dimension of the DESI. 88 % of Hungarian internet users read news (70 % in the EU), 83 % use social networks (63 % in the EU), and 54 % make video calls (39 % in the EU). Hungary ranks first on the use of social media.

At the same time, the take-up of eBanking and eCommerce are well below the EU average, and only 8 % subscribe to Video on Demand services (21 % in the EU).

[11] Break in series due to a change in the Eurostat survey.

[12] Break in series due to a change of data source. New source is Eurostat.

4 Integration of Digital Technology

4 Integration of Digital Technology	Hungary rank	Hungary score	Cluster score	EU score
DESI 2017	**24**	**0.24**	**0.27**	**0.37**
DESI 2016	27	0.21	0.25	0.35

	Hungary DESI 2017 value		Hungary DESI 2017 rank	Hungary DESI 2016 value	Hungary DESI 2016 rank	EU DESI 2017 value
4a1 Electronic Information Sharing % enterprises	**16%** 2015		**27**	**16%** 2015	**27**	**36%** 2015
4a2 RFID % enterprises	**3.9%** 2014		**16**	**3.9%** 2014	**16**	**3.9%** 2014
4a3 Social Media % enterprises	**13%** 2016	↑	**21**	**11%** 2015	**22**	**20%** 2016
4a4 eInvoices % enterprises	**8%** 2016	↑	**25**	**6%** 2015	**26**	**18%** 2016
4a5 Cloud % enterprises	**8%** 2016	↑	**23**	**6%** 2015	**24**	**13%** 2016
4b1 SMEs Selling Online % SMEs	**12%** 2016	↑	**20**	**10%** 2015	**21**	**17%** 2016
4b2 eCommerce Turnover % SME turnover	**7.6%** 2016	↑	**18**	**7.0%** 2015	**22**	**9.4%** 2016
4b3 Selling Online Cross-border % SMEs	**4.5%** 2015		**23**	**4.5%** 2015	**23**	**7.5%** 2015

On the Integration of Digital Technology by businesses, Hungary's ranks 24th, well below the EU average, although it managed to improve and advance three ranks compared with last year. Hungary progressed in all indicators. 13 % of enterprises use social media (up from 11 % in 2015), 8 % send eInvoices (6 % in 2015), 8 % use cloud services (6 % in 2015) and 12 % of SMEs sell online (10 % in 2015). However, on all of the above indicators, Hungary performs well below EU average, meaning that the business sector cannot fully exploit the opportunities offered by digital technologies.

Hungary has recently created a number of initiatives in this area. The government has launched two programmes to reach about 7000-8000 SME's in cohesion regions and encourage them to develop a more advanced use of ICTs. The Modern Businesses Programme (see highlight below) focuses on awareness raising, while the Support of business digital developments project will provide grants and loan financing to carry out investment in ICT developments. These may include for example the development of Enterprise Resource Planning (ERP) systems, Customer Relationship Management (CRM) solutions, web shops as well as mobile and advanced cloud solutions. There are several governmental programmes in Hungary to support the digital startups. The programme EDIOP[13] 3.1.3 aims at establishing expert and mentor networks to facilitate ICT startup companies' entry to international markets through the provision of free consultancy, training,

[13] Economic Development and Innovation Operational Programme

and events. This project targets 300 digital startups. EDIOP 8.2.3, to be launched in the first half of 2017 will complement the above programme by providing venture capital financing to ICT startups. In the meantime, the Ministry for National Development has recently started the preparation of a Hungarian Industry 4.0 strategy. Once this strategy is adopted, the government will define and start new measures and programmes for the digitisation of the industry during 2017. The European Structural and Investment Funds (ESIF) play a key role in financing all of the above programmes.

Hungary well recognised the need to strengthen digital entrepreneurship and the use of ICTs by business. The recently launched programmes and those in the pipeline are rightly targeting both the ICT sector and the use of ICTs in other sectors of the economy.

Highlight 2017[14]: Modern Business Programme[15]: Info-communicational, motivational, awareness-raising and competence development programme for SMEs

To help businesses harness the opportunities of digital technology, the Ministry of National Development and the Hungarian Chamber of Commerce and Industry launched a digital entrepreneurship programme in the first half of 2016.

The programme focuses on Hungarian micro, small and medium-sized enterprises and aims at increasing digital entrepreneurship, the knowledge of ICTs, the digital skill levels and the professional use of ICT devices and applications, by emphasizing the usefulness of the application of ICTs as well as the advantages of the integration of enterprises into the digital economy.

The programme consists of the following activities:

- set-up of an ICT consultant network (through the Hungarian Chamber of Commerce),
- development of awareness raising materials,
- development and maintenance of the “digital ready enterprises” evaluation system,
- organisation of professional events (on regional, county and district level),
- a communication and media campaign, and the
- development of an interactive knowledge base, portal and decision support system.

The project is expected to reach about 3000 companies by mid-2017.

[14] Highlight 2016: The new Hungarian eID card. In January 2016, Hungary launched a new electronic ID card. The new card has an integrated Near Field Communication (NFC) chip, and it meets the requirements of the European Union’s eIDAS regulation. Apart from the eID function, there are two other electronic functions available: the ePASS function and the e-Signature function. The card also stores the citizens’ Tax ID and National Health Insurance Number. The eID function of the card is secured with a 6 digit PIN, and the optional e-Signature function with a 7 digit PIN.

[15] http://www.vallalkozzdigitalisan.hu/

5 Digital Public Services

5 Digital Public Services	Hungary		Cluster	EU
	rank	score	score	score
DESI 2017	**27**	**0.35**	**0.43**	**0.55**
DESI 2016	24	0.33	0.42	0.51

	Hungary					EU
	DESI 2017			DESI 2016		DESI 2017
	value		rank	value	rank	value
5a1 eGovernment Users	**30%**	↓	**17**	**32%**	**17**	**34%**
% internet users (last year)	2016			2015		2016
5a2 Pre-filled Forms	**23**	↑	**23**	**19**	**25**	**49**
Score (0 to 100)	2016			2015		2016
5a3 Online Service Completion	**63**	↑	**25**	**55**	**26**	**82**
Score (0 to 100)	2016			2015		2016
5a4 Open Data[16]	**43%**	↓	**23**	**50%**	**11**	**59%**
% of maximum score	2016			2015		2016

In Hungary, Digital Public Services remain one of the most challenging areas of the digital economy and society: Hungary ranks 27th, its worst performance across the five dimensions of the index. The availability of online public services has shown some slight progress, but there is room for improvement. Hungary ranks 23rd on the re-use of information across administrations to make life easier for citizens (Pre-filled Forms) and 26th on the sophistication of services (Online Service Completion). Despite the relatively low quality in the online provision of public services, 30 % of internet users sent filled forms to public authorities in 2016, which is slightly below the EU average of 34 %. As for open data, Hungary went down by 7 percentage points, although the EU progressed substantially on this indicator (from 46 % in 2015 to 59 % in 2016).

The provision of pre-filled forms is very challenging. Data protection rules are strict and it is complicated to link the different registers. The government aims to address this issue with the Central Government Service Bus (KKSZB) to be launched in 2017, which will create the secure interoperability platform for eServices and data exchange. Substantial background developments are taking place in IT systems of the public administration, such as the upgrade of the Governmental Data Centre and the further development of the Municipality ASP system (ASP 2.0), which will result in an increase in online service completion. To improve the customer experience of online public services, the Government Customer Line was introduced in 2016 to provide quick, accurate and updated public administration information and assistance over the phone and online. As for electronic identification, the eID card was launched in January 2016 and 1.3 million card applications were received by the end of the year.

It remains a challenge in Hungary to ensure that public services are offered online in a user friendly way, easing the interaction of people and businesses with public administration.

[16] Change of data source. The historical data have also been restated. The new source is the European Data Portal.