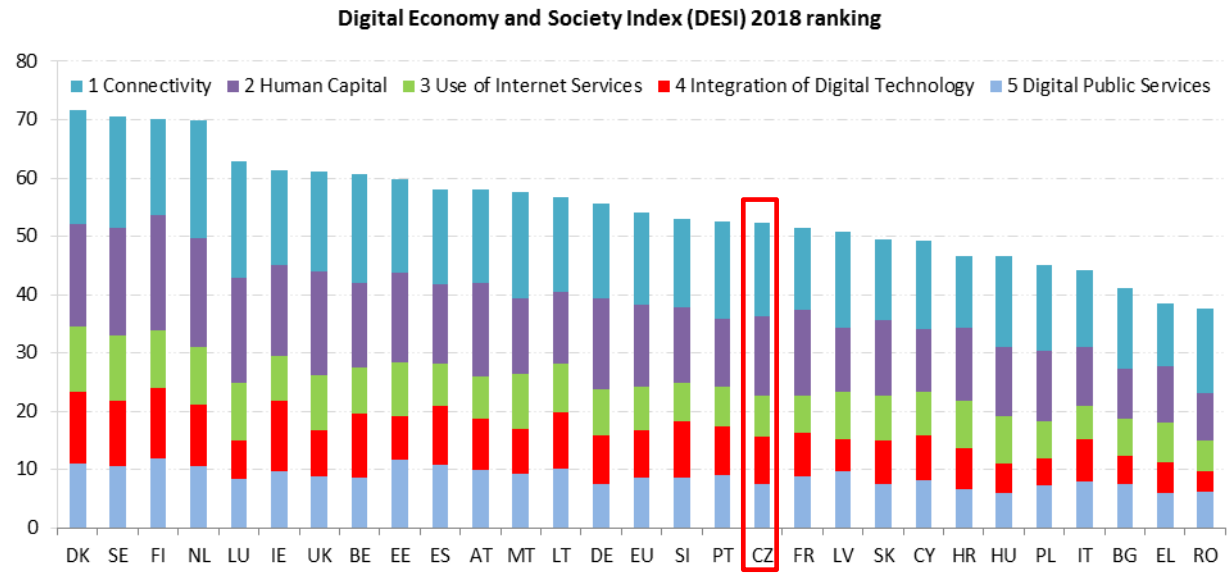
Digital Economy and Society Index (DESI[1]) 2018 Country Report Czech Republic

The DESI report tracks the progress made by Member States in terms of their digitisation. It is structured around five chapters:

1 Connectivity	Fixed broadband, mobile broadband and prices
2 Human Capital	Internet use, basic and advanced digital skills
3 Use of Internet Services	Citizens' use of content, communication and online transactions
4 Integration of Digital Technology	Business digitisation and e-commerce
5 Digital Public Services	eGovernment and eHealth

The DESI was re-calculated for the previous years 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.



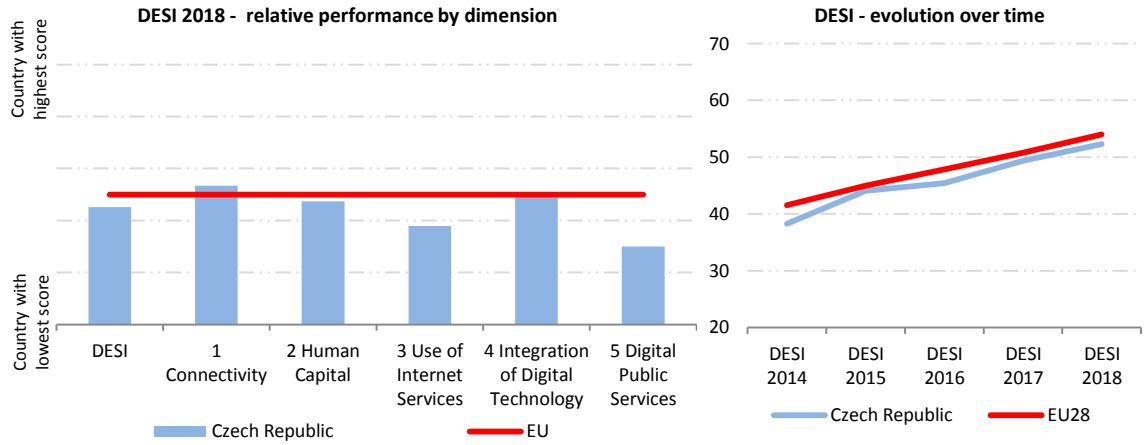
[1] https://ec.europa.eu/digital-single-market/en/desi

	Czech Republic		Cluster	EU
	Rank	score	score	score
DESI 2018	**17**	**52,3**	**54,7**	**54,0**
DESI 2017	17	49,3	51,5	50,8

The Czech Republic ranks 17th out of the 28 EU Member States. Over the last year, the country progressed across all dimensions, with the exception of the Integration of Digital Technologies, where its score was slightly lower than in 2017. The Czech Republic is very well positioned in terms of 4G coverage (99%). However, take-up of mobile broadband is growing at a slower pace.

The Czech Republic belongs to the medium-performing cluster of countries[2].

In 2017, the national coordinator of the digital agenda at the government office continued to engage with the relevant ministries, stakeholders and the general public, and to coordinate national and European digital activities. Also last year, the Alliance Society 4.0 was established and the government approved the Society 4.0 action plan and the 'principles for creating digital-friendly legislation'[3]. The action plan formulates priority tasks in relation to the impact of digital technologies on the economy and society, around the five pillars of 'connectivity and mobility', 'education and the labour market', 'computerisation of public administration', 'security' and 'industry, business and competitiveness'. Everyone involved in creating or evaluating legislation must respect 10 principles necessary to take into account the digital aspects of legislation.



[2] Medium-performing countries are Spain, Austria, Malta, Lithuania, Germany, Slovenia, Portugal, the Czech Republic, France and Latvia.

[3] https://ria.vlada.cz/prvni-krok-k-digitalne-privetive-legislative/

1 Connectivity

1 Connectivity	Czech Republic		Cluster	EU
	rank	score	score	score
DESI 2018	**16**	**63,.9**	**62,.4**	**62,.6**
DESI 2017	16	59,.0	58,.8	58,5

	Czech Republic					EU
	DESI 2018			DESI 2017		DESI 2018
	value		rank	value	rank	value
1a1 Fixed Broadband Coverage % households	**98 %** 2017	↓	**15**	**99%** 2016	**14**	**97 %** 2017
1a2 Fixed Broadband Take-up % households	**73%** 2017	↑	**14**	**71%** 2016	**16**	**75%** 2017
1b1 4G Coverage % households (average of operators)	**99%** 2017	↑	**5**	**94%** 2016	**9**	**91%** 2017
1b2 Mobile Broadband Take-up Subscriptions per 100 people	**81** 2017	↑	**21**	**77** 2016	**18**	**90** 2017
1c1 Fast Broadband (NGA) Coverage % households covered by VDSL, FTTP or Docsis 3.0	**89%** 2017	↑	**11**	**75%** 2016	**20**	**80%** 2017
1c2 Fast Broadband Take-up % homes subscribing to >= 30Mbps	**32%** 2017	↑	**17**	**26%** 2016	**17**	**33%** 2017
1d1 Ultrafast Broadband Coverage % households covered by FTTP or Docsis 3.0	**60,4%** 2017		**20**	**NA**		**58%** 2017
1d2 Ultrafast Broadband Take-up % homes subscribing to >= 100Mbps	**15,82%** 2017	↑	**14**	**13,9%** 2016	**12**	**15,4%** 2017
1e1 Broadband Price Index Score (0 to 100)	**87** 2017	↓	**11**	**88** 2016	**11**	**87** 2017

The Czech Republic''s overall EU ranking in the Connectivity dimension has been stagnating. While the target for fixed broadband full coverage is almost met, next-generation access (NGA) coverage increased above the EU average. This is due to alternative operators' deployment of fibre and the fact that the incumbent is upgrading its copper network to VDSL. With regard to the take-up of fast broadband (32%) and ultrafast broadband (15.8%), the Czech Republic is performing close to the EU average of 33% and 15.4% respectively. The ultrafast broadband uptake is exclusively accounted for by new entrants. The digital divide is best illustrated by NGA coverage, where urban areas are much better served than rural ones. In terms of mobile broadband, 4G coverage is almost ubiquitous (99 %). However, take-up is growing at a slower pace. The growth of subscriptions to fast fixed broadband is achieved mainly in the (well-developed) urban areas.

In rural areas, the lack of infrastructure is expected to be tackled through structural intervention co-financed with EU funds under the Operational Programme Enterprise and Innovations for Competitiveness (OPEIC). The OPEIC was approved by the Commission in April 2015 to support NGA roll-out in rural areas where market mechanisms cannot be relied upon to deliver NGN infrastructure. The European Structural and Investment Funds (ESIFs)

will support this OPEIC objective with approximately EUR 521 million (CZK 14 billion). Thanks to this programme, there should be 500 000 additional households with broadband access of at least 30 Mbps by 2023. A first call for tender was organised in September 2017. However, the implementation of the subsidy scheme has suffered substantial delays and encountered a number of issues with regard to the design of the tender that will need to be addressed swiftly in order to prepare the second call in 2018.

The effective implementation of the Cost Reduction Directive, in particular the Single Information Point, would contribute to the deployment of broadband infrastructure to bridge the digital divide. More generally, ultrafast broadband coverage is ensured exclusively through FTTB/FTTH (fibre access networks) and cable deployment. While ESIF funds are used for the deployment of NGA in rural areas, it remains to be seen whether the current approach is sufficient to achieve Digital Agenda targets in terms of take-up. Therefore, next to funding in areas of market failure, targeted policies and measures might also be useful in increasing user demand.

2 Human Capital

2 Human Capital	Czech Republic		Cluster	EU
	rank	score	score	score
DESI 2018	**13**	**55,1**	**58,6**	**56,5**
DESI 2017	13	53,1	56,5	54,6

	Czech Republic				EU
	DESI 2018			DESI 2017	DESI 2018
	value		rank	value	rank	value
2a1 Internet Users	**81%**	↑	**12**	**79%**	**13**	**81%**
% individuals	2017			2016		2017
2a2 At Least Basic Digital Skills	**60%**	↑	**11**	**54%**	**14**	**57%**
% individuals	2017			2016		2017
2b1 ICT Specialists	**3,5%**	↓	**15**	**3,7%**	**10**	**3,7%**
% total employment	2016			2015		2016
2b2 STEM Graduates[4]	**17,2**	↑	**14**	**16,6**	**16**	**19,1**
Per 1000 individuals (aged 20-29)	2015			2014		2015

In the Human Capital dimension, the Czech Republic ranks 13th, a stable position compared with last year; this is one of the two dimensions in which the country performs best. In 2017, more people were online and used internet regularly than in 2016. There is also an increase in the level of the population's digital skills. On the other hand, the country scored lower than in the previous year with regard to the percentage of ICT Specialists. In an economy close to full employment and where demand for technical profiles is high, recruitment of ICT specialists is increasingly difficult: in 2017, 67% of enterprises[5] reported having had difficulties in hiring ICT specialists, the second highest level in the EU and up from 47% in 2012.

The development of digital competences is a priority for the country, both in terms of increasing citizens' digital skills and qualifications from an early age, and the preparedness of the workforce for the 4th Industrial Revolution. To this end, the Czech Republic has in place a Digital Education Strategy, focused on digital literacy, computational thinking, and open education for children and teachers, a Digital Literacy Strategy for the life-long education of every adult and the Society 4.0 action plan, which covers *inter alia* issues such as Work 4.0 and Industry 4.0.

The National Coalition for Digital Jobs[6], set up in 2016, now counts 77 members, including employers and associations from the ICT sector, public sector authorities, universities and

[4] The most recent data has been used in DESI 2018. It may refer to 2016 or 2015, depending on the Member State. This is reflected in the 2018 DESI ranking. Historical data has been updated by Eurostat.

[5] Of all the enterprises which recruited/tried to recruit personnel for jobs requiring ICT specialist skills. Source: European Commission, Digital Scoreboard.

[6] http://www.digikoalice.cz/

education providers, NGOs and civil society organisations. Some stakeholders linked to the Industry 4.0 (Průmysl 4.0) strategy are also involved. The Coalition supports stakeholder dialogue by organising roundtables and conferences on various topics relating to digital skills development, and the sharing of best practices.

The successful implementation of the above actions will greatly benefit the country's human capital.

Highlight 2018: Supporting the development of computational thinking (PRIM project)[7]

The development of computational thinking is one of the three main targets of the Digital Education Strategy. Funded by the European Social Fund and with a budget of €4.25 million, the PRIM (*Podpora rozvíjení informatického myšlení*) project will prepare conceptual materials that will enable curriculum documents to be upgraded so as to involve digital technologies.

The aim of the project is to promote the conditions for open education and to contribute to the creation of an education system that ensures that every individual is equipped with the necessary competences to apply to the information society and to use open learning opportunities. Conceptual materials will consistently take into account the needs of joint learning.

The project started in October 2017 and will run until September 2020. It relies on the partnership of the National Institute of Education (NÚV), nine (all) pedagogical faculties preparing primary teachers and almost all faculties preparing secondary ICT teachers.

The main expected outputs are:

- 11 educational materials for computational thinking for all school degrees (incl. Kindergarten):
    A. algorithmisation, programming;
    B. unplugged computing, basics of theoretical informatics; and
    C. robotics (building sets, toys);
- lessons in computing training at the universities;
- two in-service courses for teachers:
    - created, piloted and offered for educational organisations; and
    - for primary and secondary IT teachers; blended learning;
- two MOOC courses:
    - 'What is CT?; and
    - 'What is robotics?'; and
- public awareness-raising campaigns (TV, social networks, schools).

[7] https://www.muni.cz/vyzkum/projekty/38424

3 Use of Internet Services

3 Use of Internet Services	Czech Republic		Cluster	EU
	rank	score	score	score
DESI 2018	**20**	**46.5**	**48.3**	**50.5**
DESI 2017	21	43.0	45.0	47.5

	Czech Republic				EU
	DESI 2018		DESI 2017		DESI 2018
	value	rank	value	rank	value
3a1 News % individuals who used Internet in the last 3 months	**91%** 2017	**3**	**NA** 2016		**72%** 2017
3a2 Music, Videos and Games % individuals who used Internet in the last 3 months	**72%** 2016	**24**	**72%** 2016	**24**	**78%** 2016
3a3 Video on Demand % individuals who used Internet in the last 3 months	**4%** 2016	**28**	**4%** 2016	**28**	**21%** 2016
3b1 Video Calls % individuals who used Internet in the last 3 months	**42%** ↑ 2017	**23**	**40%** 2016	**19**	**46%** 2017
3b2 Social Networks % individuals who used Internet in the last 3 months	**57%** ↑ 2017	**26**	**55%** 2016	**26**	**65%** 2017
3c1 Banking % individuals who used Internet in the last 3 months	**67%** ↑ 2017	**13**	**63%** 2016	**14**	**61%** 2017
3c2 Shopping % internet users (last year)	**65%** ↑ 2017	**13**	**57%** 2016	**15**	**68%** 2017

In terms of the propensity of individuals to use internet services, the Czech Republic made good progress over the last year and advanced from rank 21 to rank 20. In 2017, 91% of Czech internet users read news online, well above the EU average. Czech internet users also performed banking transactions online more than other Europeans (67%, as compared with 63% in the EU as a whole) and increasingly shopped online, although still not in line with the EU average (65 %, as compared with 68 %). They used the internet for entertainment (music and video) and communication (social networks) less than the average European. With no changes from the previous year, video-on-demand use was especially low, placing the country at the bottom of the EU ranking.

4 Integration of Digital Technology

4 Integration of Digital Technology	Czech Republic		Cluster	EU
	rank	score	score	score
DESI 2018	**13**	**40.4**	**42.1**	**40.1**
DESI 2017	11	40.8	38.5	36.7

	Czech Republic					EU
	DESI 2018			DESI 2017		DESI 2018
	value		rank	value	rank	value
4a1 Electronic Information Sharing	**28%**	↓	**20**	**30%**	**18**	**34%**
% enterprises	2017			2015		2017
4a2 RFID	**2.0%**	↑	**27**	**1.3%**	**28**	**4.2%**
% enterprises	2017			2014		2017
4a3 Social Media	**13%**	↑	**23**	**12%**	**24**	**21%**
% enterprises	2017			2016		2017
4a4 eInvoices	**18.4%**	↑	**13**	**12.9%**	**18**	**NA**
% enterprises	2017			2016		2017
4a5 Cloud	**14.4%**	↑	**17**	**9.9%**	**20**	**NA**
% enterprises	2017			2016		2017
4b1 SMEs Selling Online	**22.9%**	↓	**6**	**25.7%**	**4**	**17.2%**
% SMEs	2017			2016		2017
4b2 E-commerce Turnover	**16.3%**	↓	**2**	**21.7%**	**2**	**10.3%**
% SME turnover	2017			2016		2017
4b3 Selling Online Cross-border	**12.1%**	↑	**4**	**11.8%**	**3**	**8.4%**
% SMEs	2017			2015		2017

Over the past year, the Czech Republic dropped several ranks in the dimension concerning the Integration of Digital Technology by businesses. However, this is one of the two dimensions where the country performs best. Although still above the EU average, the percentage of Czech SMEs selling online decreased over the last year. Likewise, e-commerce turnover went down, although the country still ranks second in the EU. Over 2017, there was an increase in the use of RFID, cloud and social media, but the sharing of electronic information (and thus the country's ranking in this dimension) fell.

As part of the Industry 4.0 initiative[8], approved by the government in August 2016, the organisational structure of the national application-oriented research centres for Industry 4.0 is being revised to determine the scope of activities of the various centres. There are dedicated programmes for Industry 4.0 solutions and process development, such as 'Technology — Industry 4.0', 'Innovation Vouchers' and others. Also as part of the initiative, a number of instruments to deal with the capital-intensive aspects of implementation of Industry 4.0 actions, systems and processes are being considered. The Operational Programme Enterprise and Innovation, with a total allocation of CZK 120 billion (€4.5 billion), is to become a key financial instrument immediately available for applying Industry 4.0 in the current programming period. The implementation of these programmes would be of significant benefit for the Czech economy.

[8] Průmysl 4.0.

5 Digital Public Services

5 Digital Public Services	Czech Republic		Cluster	EU
	rank	score	score	score
DESI 2018	**22**	**50,2**	**58,5**	**57,5**
DESI 2017	23	44,7	54,9	53,7

	Czech Republic				EU
	DESI 2018			DESI 2017	DESI 2018
	value		rank	value	rank	value
5a1 eGovernment Users[9]	**33%**	↓	**27**	**35%**	**27**	**58%**
% internet users needing to submit forms	2017			2016		2017
5a2 Pre-filled Forms	**49**	↑	**16**	**43**	**15**	**53**
Score (0 to 100)	2017			2016		2017
5a3 Online Service Completion	**81**	↑	**18**	**77**	**20**	**84**
Score (0 to 100)	2017			2016		2017
5a4 Digital Public Services for Businesses	**81**	↑	**17**	**73**	**21**	**83**
Score (0 to 100) - including domestic and cross-border	2017			2016		2017
5a5 Open Data	**68%**	↑	**20**	**55%**	**17**	**73%**
% of maximum score	2017			2016		2017
5b1 eHealth Services	**15%**		**16**	**NA**		**18%**
% individuals	2017					

This is the dimension where the Czech Republic progressed the most, although it is still below EU average in all indicators. Online interaction between public authorities and citizens is one of the lowest in the EU.

Despite an increase in all indicators, the performance (50.2) of the Czech indicator for Digital Public Services remains below the EU average (57.5). It ranks 22nd among EU countries, a slight year-on-year improvement.

Although in 2017 the amount of data prefilled in public services' online forms and the percentage of administrative steps related to major life events that can be done online both increased, the use of e-government services remains well below the EU average.

In 2017, two laws on secure access to e-government services were adopted: on electronic identification[10] and on citizens' identity cards[11]. As they enable the online identification of citizens, they have the potential to boost e-government services and help to foster digital society beyond the public administration. The national e-ID, which should serve as a key enabler for the use of e-government services, is set to be introduced in July 2018.

[9] The definition of this indicator has been changed. The new indicator measures eGovernment users as a percentage of those internet users needing to submit forms to the public administration.

[10] Act No 250/2017 Coll.

[11] Act No 195/2017 Coll.

The government also plans to launch an interactive citizens' portal, acting as a national gateway for personalised e-government services. To improve accessibility, classification of the available public sector digital services (some 700) is ongoing, with a view to cataloguing them. This should raise awareness of e-government services from the currently low levels, which is one of the barriers to their broader usage. Work is also ongoing to improve the interoperability of e-government infrastructure[12,] which should help address the fragmentation of services and databases.

Despite progress in both demand and supply of eGovernment services over the past year, the performance of the Czech Digital Public Services remains below EU average. The actions put in place by the Czech Republic to improve availability, quality and promotion of eGovernment services could contribute to improvements in this dimension.

As regards eHealth, ePrescriptions have been compulsory for all healthcare providers and physicians since January 2018. This is part of the National e-Health Strategy published and approved by the government in 2016. Currently, the Czech Republic is creating a National e-Health Centre with the support of the Structural Reform Support Service.

[12] Such as the base registers, data boxes, the network of CzechPOINTs and the public administration portal.