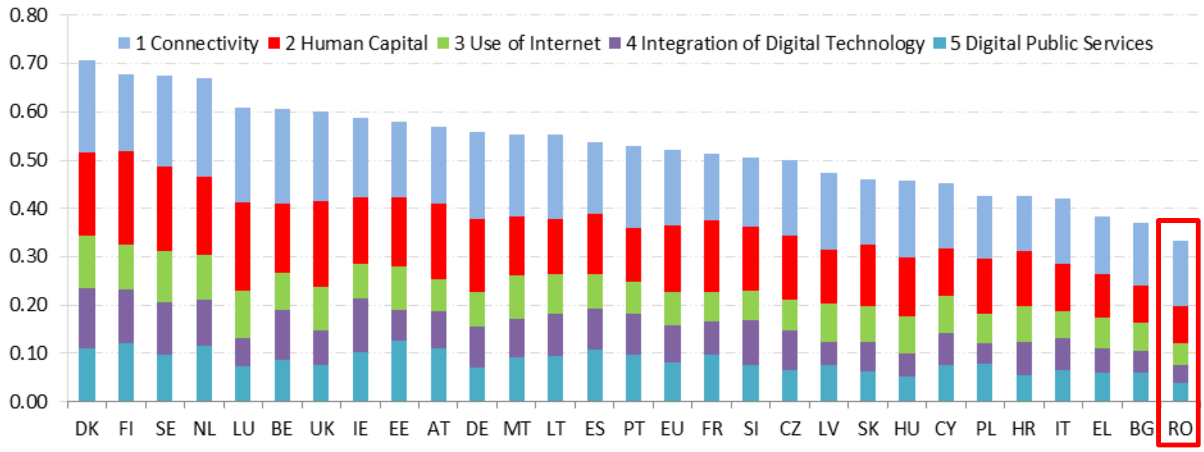
Europe's Digital Progress Report (EDPR) 2017 Country Profile Romania

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

Digital Economy and Society Index (DESI) 2017 ranking



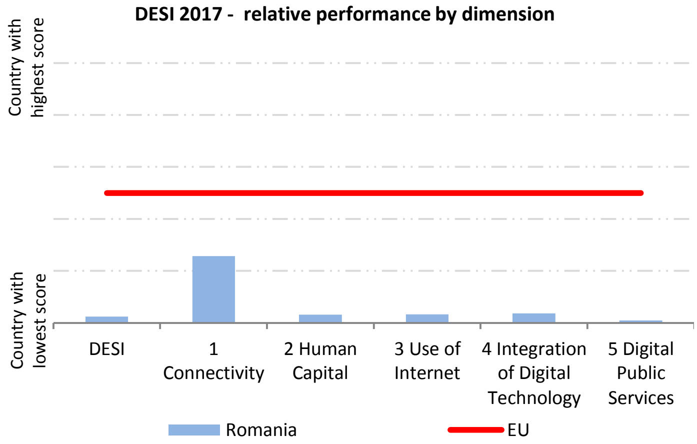
[1] https://ec.europa.eu/digital-single-market/en/desi

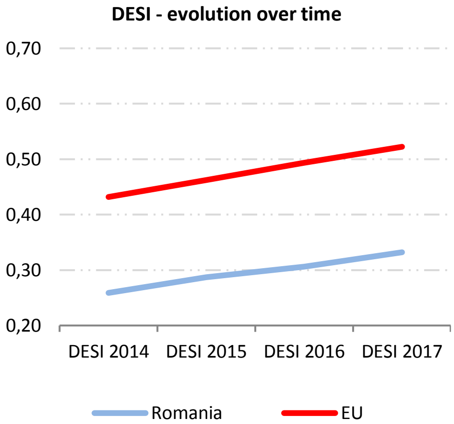
	Romania		Cluster	EU
	rank	score	score	score
DESI 2017	**28**	**0,33**	**0,41**	**0,52**
DESI 2016[2]	28	0,31	0,38	0,49

Romania ranks 28th out of the 28 EU Member States. Overall, it progressed slowly over the last year but it is not catching up with the rest of the EU. In recent years, Romania has not made much progress relative to other EU Member States. On the positive side, Romanians benefit from coverage of fast broadband connections in urban areas, which translates into the highest share of subscriptions in the EU. The take-up of mobile broadband is also accelerating. However, the rate of digitisation of the economy, including for public services, and digital skill levels are still low.

Overall, in DESI 2017, Romania belongs to the low performing cluster of countries[3].

Romania adopted its National Strategy for the Romanian Digital Agenda 2020[4] in February 2015.





[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] Strategia Națională privind Agenda Digitală pentru România https://www.comunicatii.gov.ro/?page_id=3496

1 Connectivity

1 Connectivity	Romania		Cluster	EU
	rank	score	score	score
DESI 2017	**22**	**0,54**	**0,53**	**0,63**
DESI 2016	21	0,50	0,46	0,59

	Romania					EU
	DESI 2017			DESI 2016		DESI 2017
	value		rank	value	rank	value
1a1 Fixed Broadband Coverage % households	**89%** 2016	→	**26**	**89%** 2015	**25**	**98%** 2016
1a2 Fixed Broadband Take-up % households	**63%** 2016	↑	**23**	**60%** 2015	**23**	**74%** 2016
1b1 Mobile Broadband Take-up Subscriptions per 100 people	**71** June 2016	↑	**22**	**59** June 2015	**24**	**84** June 2016
1b2 4G coverage[5] % households (average of operators)	**45%** 2016		**28**	**NA**		**84%** 2016
1b3 Spectrum[6] % of the target	**75%** 2016	↑	**9**	**67%** 2015	**18**	**68%** 2016
1c1 NGA Coverage % households	**72%** 2016	↑	**24**	**70%** 2015	**22**	**76%** 2016
1c2 Subscriptions to Fast Broadband % subscriptions >= 30Mbps	**70%** June 2016	↑	**2**	**63%** June 2015	**2**	**37%** June 2016
1d1 Fixed Broadband Price[7] % income	**1,1%** price 2016, income 2015	↑	**10**	**1,2%** price 2015, income 2015	**15**	**1,2%** price 2016, income 2015

Romania's overall performance shows some progress in the Connectivity dimension. Romania lags behind as regards fixed broadband coverage, as well as mobile 4G broadband coverage where Romania ranks last amongst EU Member States. In spite of this infrastructure gap, mobile broadband take-up advanced significantly, even though at a slower pace than the EU on average. The fixed broadband take-up slightly grew as well. In terms of spectrum assignment Romania performs well. The strong infrastructure based competition, mainly in urban areas, is reflected in two indicators where Romania's performance is outstanding. In terms of subscription to fast broadband, Romania (2nd place) largely outperforms the EU average with almost twice as many subscriptions. Competition is also evidenced by the relative price per income for fixed broadband (10th place).

In line with its 2015 NGA implementation plan, Romania transposed the Broadband Cost Reduction Directive. New competences vested in the NRA could solve the bottleneck

[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.

represented by the difficult permit granting procedures. The NRA is also tasked to provide a cost based methodology that would serve as a basis for local taxes on telecom infrastructure. The effective implementation of these competences is expected to provide greater legal certainty and more fluid administrative procedures in the sector.

The lack of fixed broadband coverage in white areas is being tackled with the help of European Structural and Investment Funds. More than 600 localities are expected to be addressed in the second phase of the RO-NET project that provides publicly owned backhaul infrastructure. For a significant part of the remaining white areas the Government is preparing a grant scheme that would finance last mile access infrastructure owned by the beneficiary operator.

ESIF funds are the main drivers for the deployment of NGA infrastructure in rural areas. Romania's ability to exploit the benefits of the digital economy may be jeopardised by the limited usage of connectivity services.

2 Human Capital

2 Human Capital	Romania rank	Romania score	Cluster score	EU score
DESI 2017	**28**	**0,31**	**0,40**	**0,55**
DESI 2016	28	0,28	0,38	0,53

	Romania DESI 2017 value		Romania DESI 2017 rank	Romania DESI 2016 value	Romania DESI 2016 rank	EU DESI 2017 value
2a1 Internet Users % individuals	**56%** 2016	↑	**28**	**52%** 2015	**28**	**79%** 2016
2a2 At Least Basic Digital Skills % individuals	**28%** 2016	↑	**27**	**26%** 2015	**28**	**56%** 2016
2b1 ICT Specialists[8] % employed individuals	**1,9%** 2015	↑	**27**	**1,6%** 2014	**27**	**3,5%** 2015
2b2 STEM Graduates Per 1000 individuals (aged 20-29)	**16** 2014	↓	**17**	**17** 2013	**16**	**19** 2014

In terms of digital skills, Romania's performance is below the EU average but it's making some progress with more people getting online and digital skill levels slowly improving. A little more than half of Romanians are regular internet users (56%) compared with 79% in the EU. 28% of Romanians possess above basic levels of digital skills versus 56% across the EU. Romania benefits from a good pool of science, technology, math and engineering (STEM) graduates with 1.6% of Romanians aged 20-29 years old holding a STEM degree although this level is falling according to the latest figures. The share of ICT specialists in the economy is increasing as IT jobs offer attractive salaries.

The Ministry of Education and Research aims to increase the digital skills of the new generation and is preparing some initiatives to tackle this issue. As of 2017, both ICT and programming classes are being introduced in middle school. They allow for simple coding and algorithmic thinking in order to ensure that children are able to search, find and interpret data. A pilot project called 'The Digital Catalogue' has been implemented, allowing for parents to digitally track grades and absences in school. School books - the availability of which has been a significant public issue in Romania in the past years - are currently available for free, online[9]. Various private companies have launched their own campaigns to improve digital skills and attract ICT specialists.

At this point digital skills still seem to be mostly promoted through private sector initiatives, rather than by public policy.

[8] Historical data have been revised by Eurostat.

[9] https://www.manuale.edu.ro/

3 Use of Internet

3 Use of Internet	Romania		Cluster	EU
	rank	score	score	score
DESI 2017	**28**	**0,29**	**0,39**	**0,48**
DESI 2016	28	0,30	0,37	0,45

	Romania					EU
	DESI 2017			DESI 2016		DESI 2017
	value		rank	value	rank	value
3a1 News % individuals who used Internet in the last 3 months	**63%** 2016	↓	**25**	**67%** 2015	**22**	**70%** 2016
3a2 Music, Videos and Games[10] % individuals who used Internet in the last 3 months	**67%** 2016		**27**	**NA**		**78%** 2016
3a3 Video on Demand[11] % individuals who used Internet in the last 3 months	**6%** 2016		**27**	**NA**		**21%** 2016
3b1 Video Calls % individuals who used Internet in the last 3 months	**45%** 2016	↑	**15**	**42%** 2015	**15**	**39%** 2016
3b2 Social Networks % individuals who used Internet in the last 3 months	**74%** 2016	↓	**8**	**78%** 2015	**3**	**63%** 2016
3c1 Banking % individuals who used Internet in the last 3 months	**8%** 2016	↓	**27**	**10%** 2015	**27**	**59%** 2016
3c2 Shopping % internet users (last year)	**18%** 2016	→	**28**	**18%** 2015	**28**	**66%** 2016

Romanian Internet users engage in a broad range of online activities. They read news online (63%), listen to music, watch films and play games online (67%), use the Internet to communicate via voice or video calls (45%) or through social networks (74%). However, when compared with last year, the only category with increased activity is on-line video calls. While Romanians are keen to engage in social networks and video calls, they are reluctant to engage in online transactions, with online shopping and online banking registering some of the lowest levels in the EU. This is the key challenge for Romania in terms of Internet use, because a digital economy is partly fuelled by its citizens' trust in the online channel.

In terms of e-commerce, a more clear delineation of what are the applicable laws and how they are enforced is needed. An e-Commerce Action Plan planned by the Romanian Government should help in this respect. Regarding online banking, the public's lack of trust could be addressed through policy measures such as encouraging banks to limit or eliminate fees for eBanking and by promoting eBanking in public institutions. The recently adopted law whereby all stores with a turnover above 10,000€/year should have POS terminals installed should lead to a higher degree of trust in electronic payments as well.

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

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

4 Integration of Digital Technology

4 Integration of Digital Technology	Romania		Cluster	EU
	rank	score	score	score
DESI 2017	**28**	**0,19**	**0,27**	**0,37**
DESI 2016	28	0,18	0,25	0,35

	Romania				EU
	DESI 2017		DESI 2016		DESI 2017
	value	rank	value	rank	value
4a1 Electronic Information Sharing % enterprises	**22%** 2015	**24**	**22%** 2015	**24**	**36%** 2015
4a2 RFID % enterprises	**4,0%** 2014	**14**	**4,0%** 2014	**14**	**3,9%** 2014
4a3 Social Media % enterprises	**8%** ↑ 2016	**28**	**6%** 2015	**28**	**20%** 2016
4a4 eInvoices % enterprises	**9%** 2016	**24**	**NA** 2015		**18%** 2016
4a5 Cloud % enterprises	**5%** ↓ 2016	**26**	**6%** 2015	**26**	**13%** 2016
4b1 SMEs Selling Online % SMEs	**7%** → 2016	**27**	**7%** 2015	**24**	**17%** 2016
4b2 eCommerce Turnover % SME turnover	**4,3%** ↓ 2016	**26**	**4,9%** 2015	**24**	**9,4%** 2016
4b3 Selling Online Cross-border % SMEs	**1,9%** 2015	**28**	**1,9%** 2015	**28**	**7,5%** 2015

Businesses in Romania continue to lag behind those in other Member States in taking advantage of the opportunities offered by digital technology. Romania still ranks last in Europe for integrating digital technology into business, even if some progress has been made. The highest growth year to year has been in the share of firms using social media, rising from 6 to 8%. Even taking this uptick into account, Romania remains last in the EU for this indicator. This contrasts with the high share of individual social media users in the country. Furthermore, no progress has been registered in terms of SMEs selling online (7%) and a decrease can be seen for use of cloud services (-5%) and eCommerce turnover for SMEs (-4.3%).

In terms of policy, Romania does not yet have a national strategy for digitizing industry; components such as cloud computing, open data and e-commerce are included in the Romanian National Digital Agenda Strategy, but the focus seems more on supporting measures for citizens, rather than the business environment. Overall, there seems to be a lot of room for adopting policy measures that support the uptake of digital technologies in the day to day life of companies.

Companies in Romania do not seem to see digital technology as a tool to boost productivity and create growth. ICT technology and cloud services are seen as a significant additional investment, rather than a pre-requisite for a successful business. The concept of digital hubs such as the ones currently existing in Cluj-Napoca or Bucharest is beneficial to companies and could be expanded to other places in Romania.

Digital Public Services

5 Digital Public Services	Romania		Cluster	EU
	rank	score	score	score
DESI 2017	**28**	**0,27**	**0,43**	**0,55**
DESI 2016	28	0,21	0,42	0,51

	Romania					EU
	DESI 2017			DESI 2016		DESI 2017
	value		rank	value	rank	value
5a1 eGovernment Users % internet users (last year)	**6%** 2016	↓	**28**	**8%** 2015	**28**	**34%** 2016
5a2 Pre-filled Forms Score (0 to 100)	**12** 2016	↑	**27**	**6** 2015	**28**	**49** 2016
5a3 Online Service Completion Score (0 to 100)	**55** 2016	↑	**28**	**54** 2015	**28**	**82** 2016
5a4 Open Data[12] % of maximum score	**63%** 2016	↑	**11**	**44%** 2015	**17**	**59%** 2016

In the Digital Public Services dimension, Romania's performance is below the EU average but with some progress. Romania has advanced mainly on the supply side by increasing the number of services which can be completed online and by automatically pre-filling forms for citizens. In addition Romania also progressed on promoting an Open Data policy. Despite these improvements on the supply side, use of eGovernment services remains the lowest in the EU.

A series of measures taken by the Romanian Government targeted the reinforcement of governance and coordination of the implementation of e-government solutions. The position of coordinator of information technology, coordinated by a Secretary of State, was established. In addition an innovative initiative (GOVITHUB[13] programme) managed to attract a high number of ICT experts to improve the quality of the public administration and open an entire innovation, digital and startup ecosystem.

The national administration IT system is fragmented, adding to the administrative burden for citizens and businesses. In the current competitive environment, Romanian public administrations have difficulties in attracting and retaining ICT specialists but programmes like GovITHub have shown that public sector innovation is possible and ICT specialists can be found.

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

[13] http://ithub.gov.ro

Highlight 2017: GOVITHUB Programme[14]

GovITHub is a nationwide programme adopted by the Romanian Government in July 2016[15], combining public authorities and private enterprises, aiming to improve the quality of public service through the use of technology. The programme offers 20 fellowships as well as a volunteers scheme, with over 300 ICT specialists working for 8h/week, and networks a thousand others outside the volunteer framework. The programme has attracted an entire innovation, digital and start-up ecosystem. Along with government representatives, members of the GovITHub develop IT projects and open-source, online public service platforms in order to improve and digitise Romanian the public administration in ia transparent way. 26 projects have been launched and each is at a different stage of development. For more information: http://ithub.gov.ro/proiecte/. The benefits brought by the projects are tangible and impact citizens' day to day lives, by improving awareness and transparency, getting people involved in the community and by offering online procedures for interacting with public authorities, all at low cost for the public budget.

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[14] Highlight 2016 was: The special committee designed to cut red tape ("Comisia de tăiat hârtii") The Romanian Government launched on 24 February 2016 an initiative aimed at identifying ways of reducing bureaucracy in the public administration through suggestions from the general public via an on-line platform (http://maisimplu.gov.ro/). The government wants an institution to ask only once for information from a citizen and to make public institutions capable of electronically transferring information between themselves. The initiative is also looking to remove cumbersome documents and procedures. The initiative has attracted thousands of suggestions for simplification.

[15] 15 The financing of the GOVITHUB Programme under the new Romanian government is unclear.