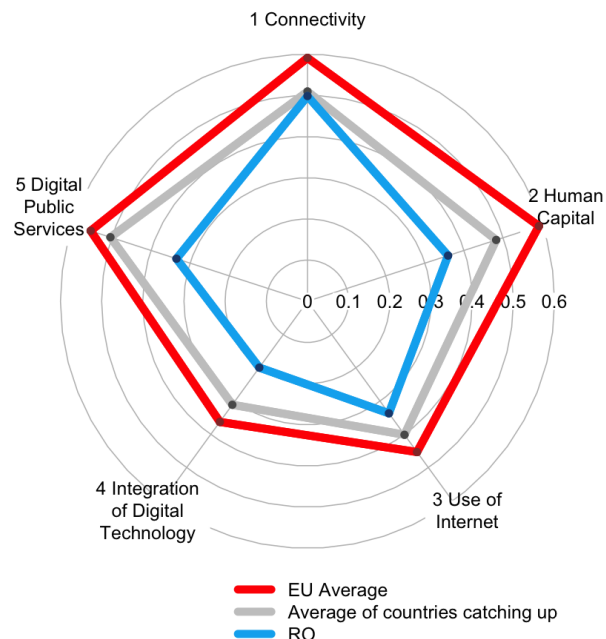


Digital Economy and Society Index¹ 2016²

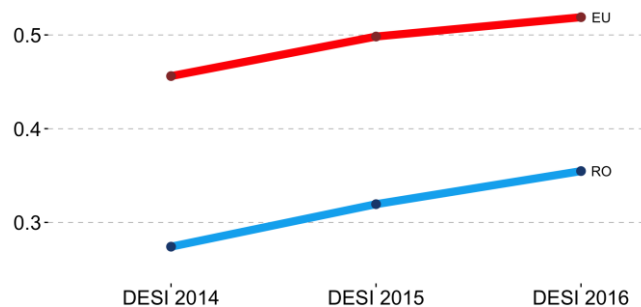
Country Profile

Romania

Romania has an overall score³ of **0.35** and ranks **28th** out of the 28 EU Member States. Relative to last year, more people subscribe to broadband networks also thanks to its good quality, but low levels of digital skills and trust seem to be holding back the development of its digital economy. The use of Internet increased mainly thanks to a higher participation in social networks. Romania's businesses on the other hand need to better exploit the possibilities offered by social media, on-line commerce and cloud-based applications. The share of users interacting with public authorities increased but it is still the lowest in the EU.



Romania is part of the **catching-up⁴** cluster of countries because, although it still performs worse than the EU as a whole, it has developed fast over the last year and got closer to the EU average.



DESI	Romania		Cluster score	EU score
	rank	score		
DESI 2016	28	0.35	0.45	0.52
DESI 2015 ⁵	28	0.32	0.41	0.5

¹ The Digital Economy and Society Index (DESI) is a composite index developed by the European Commission (DG CNECT) to assess the development of EU countries towards a digital economy and society. It aggregates a set of relevant indicators structured around 5 dimensions: Connectivity, Human Capital, Use of Internet, Integration of Digital Technology and Digital Public Services. For more information about the DESI please refer to <http://ec.europa.eu/digital-agenda/en/digital-agenda-scoreboard>

² The DESI 2016 is constructed from indicators referring mostly to the calendar year 2015 (except when data is not available for that calendar year, in which case the latest prior data was used).

³ DESI scores range from 0 to 1, the higher the score the better the country performance.

⁴ In the DESI 2016, the catching up cluster of countries comprises Cyprus, Croatia, Italy, Latvia, Romania and Slovenia.

⁵ The DESI 2015 was re-calculated for all countries to reflect updates and corrections to the underlying indicator data (which took place between May 2015 and January 2016). As such, country scores and rankings may have changed from the previous publication. For further information please consult the DESI methodological note.

1 Connectivity

1 Connectivity	Romania		Cluster	EU
	rank	score	score	score
DESI 2016	23	0.5	0.5	0.59
DESI 2015	23	0.47	0.48	0.57

Connectivity is the DESI 2016 dimension where Romania performs best. With an overall Connectivity score of 0.5 (up from 0.47) Romania ranks 23rd among EU countries.

	Romania				EU DESI 2016 Value
	DESI 2016 Value	rank	DESI 2015 value	rank	
1a1 Fixed BB Coverage % households	89% (June 2015) →	26	89% (December 2014)	25	97% (June 2015)
1a2 Fixed BB Take-up % households	60% (2015) ↑	23	54% (2014)	25	72% (2015)
1b1 Mobile BB Take-up Subscribers per 100 people	59 (June 2015) ↑	24	54 (December 2014)	23	75 (June 2015)
1b2 Spectrum % of the target for spectrum to be harmonised at EU level	67% (December 2014) ↓	18	69% (December 2014)	18	69% (December 2015)
1c1 NGA Coverage % households, out of all households	72% (June 2015) ↑	22	69% (December 2014)	21	71% (June 2015)
1c2 Subscriptions to Fast BB % of subscriptions >= 30Mbps, out of fixed BB subscriptions	63% (June 2015) ↑	2	60% (December 2014)	2	30% (June 2015)
1d1 Fixed BB Price % individual gross income spent for the cheapest standalone Fixed Broadband subscription (lower values are better)	2.7% (Access cost:2015; Income: 2014) ↑	27	2.8% (Access cost: 2014; Income 2014)	27	1.3% (Access cost 2015; Income 2014)

Romania faces two main challenges in Connectivity. First, it needs to improve the coverage of fixed broadband networks reaching only 89% of households, significantly below the EU average (97%). Second, it needs to increase the number of broadband subscribers: only 60% of households subscribe to fixed broadband (EU average is 72%) and 59 subscribers per 100 people subscribe to mobile broadband (EU average is 75), limiting Romania's ability to exploit the benefits of the digital economy. One of the reasons for the low take-up of broadband in Romania might be the subscription price. An individual seeking to subscribe to a broadband connection⁶ must spend on average 2.7%⁷ of her gross income, which is more than double the EU average of 1.3%.

Romania performs better than the EU at large in the case of high-speed Internet access. Networks capable of providing at least 30 Mbps (NGA) are available to more than two-thirds (72%) of Romanian households slightly more than the EU average (71%). In terms of take-up, Romania is one of the leaders with 63% of fixed Internet subscriptions to fast broadband (the 2nd best in the EU)

Recently, the Romanian regulator (ANCOM) found that a very dynamic competitive environment had developed both in the retail and wholesale fixed broadband markets and adopted a measure which will lead, within one year, to the complete deregulation of the market for wholesale local access provided at a fixed location.

⁶ Calculations performed taking into account the price of the least expensive standalone (Internet only) fixed broadband connection offering speeds between 12 Mbps and 30 Mbps.

⁷ Romania would compare slightly better with the EU if double play fixed broadband subscriptions (telephony and Internet) were taken into account

2 Human Capital

2 Human Capital	Romania		Cluster score	EU score
	rank	score		
DESI 2016	27	0.36	0.47	0.59
DESI 2015	28	0.31	0.45	0.58

With an improved Human Capital score of 0.36 (up from 0.31) Romania ranks 27th among EU countries.

	Romania				EU DESI 2016 value
	DESI 2016		DESI 2015		
	value	rank	value	rank	
2a1 Internet Users % individuals (aged 16-74)	52% (2014) ↑	28	48% (2013)	28	76% (2015)
2a2 Basic Digital Skills % individuals (aged 16-74)	26% (2015)	28	n.a.	-	55% (2015)
2b1 ICT Specialists % employed individuals	2.6% (2014) ↑	21	2.4% (2013)	22	3.7% (2014)
2b2 STEM Graduates Graduates in STEM per 1000 individuals (aged 20 to 29)	17 (2013) ↓	15	19 (2012)	9	18 (2013)

Despite some progress, half of Romanians are regular internet users (52% vs 76 % in the EU). Moreover, there are still one third (32%) of Romanians who had never used the internet (vs 16 % in the EU) and thus they cannot partake on the possibilities offered by the Internet, nor can they contribute to the digital economy. The digital skills in the population are the lowest in the EU with only 26% of Romanians possessing basic levels of digital skills.

Digital skills are nowadays needed in every corner of the workforce. In Romania less than half (46%) of the workforce possesses basic or above digital skills (vs 72% in the EU). This might become an important barrier to the country's economic development. Enhancing digital literacy and digital skills can generate digital jobs and support the development of a digital economy.

Despite the existence of many skilled ICT specialists more are needed. The share of ICT specialists in the overall workforce has increased and reaches 2.6%. Romania performs relatively well in the STEM graduates, with 1.7% of Romanians aged 20-29 years old holding a STEM (Science, technology and mathematics) degree. While positive, this is not enough to compensate for Romania's digital skills deficit, and the indicator has slightly decreased (from 1.9% in 2012 to 1.7% in 2013).

3 Use of Internet

3 Use of Internet	Romania		Cluster score	EU score
	rank	score		
DESI 2016	27	0.34	0.41	0.45
DESI 2015	28	0.31	0.4	0.43

In terms of the propensity of individuals to use Internet services, Romania scores 0.34 (up from 0.31) and ranks 27th among EU countries.

	Romania				EU DESI 2016 value
	DESI 2016		DESI 2015		
	value	rank	value	rank	
3a1 News % individuals who used Internet in the last 3 months (aged 16-74)	67% (2015) ↓	22	70% (2014)	19	68% (2015)
3a2 Music, Videos and Games % individuals who used Internet in the last 3 months (aged 16-74)	46% (2014) →	22	46% (2014)	22	49% (2014)
3a3 Video on Demand % households that have a TV	36% (2014) →	11	36% (2013)	11	41% (2014)
3b1 Video Calls % individuals who used Internet in the last 3 months (aged 16-74)	42% (2015) →	15	42% (2014)	12	37% (2015)
3b2 Social Networks % individuals who used Internet in the last 3 months (aged 16-74)	78% (2015) ↑	3	67% (2014)	10	63% (2014)
3c1 Banking % individuals who used Internet in the last 3 months (aged 16-74)	9.6% (2015) ↑	27	7.7% (2014)	28	57% (2015)
3c2 Shopping % individuals who used Internet in the last year (aged 16-74)	18% (2015) ↑	28	17% (2014)	28	65% (2015)

Romanian Internet users engage in a broad range of online activities. They read news online (67%), listen to music, watch films and play games online (46%), use the Internet to communicate via voice or video calls (42%) or through social networks (78%), and obtain video content using their broadband connections (mostly though Video on Demand – 36%). Compared to last year, for most of these activities Romanians engagement is lower with the exception of the use of social networks which featured the highest increase.

While Romanians are keen to engage especially in social networks they are very reluctant to engage in online transactions. Despite progress, the shares of Romanian Internet users that use online banking (9.6%) or shop online (18%) are the lowest of all EU countries. This is the key challenge for Romania in terms of Internet use by its citizens, because a digital economy is partly fuelled by its citizens' trust in the online channel.

4 Integration of Digital Technology

4 Integration of Digital Technology	Romania		Cluster score	EU score
	rank	score		
DESI 2016	28	0.2	0.31	0.36
DESI 2015	27	0.19	0.27	0.33

Despite some progress, in Integration of Digital Technology by businesses, Romania scores 0.2, its lowest score and falling to the last position in the EU.

	Romania				EU DESI 2016 value
	DESI 2016		DESI 2015		
	value	rank	value	rank	
4a1 Electronic Information Sharing % enterprises (no financial sector, 10+ employees)	22% (2015) ↑	24	21% (2014)	24	36% (2015)
4a2 RFID % enterprises (no financial sector, 10+ employees)	4% (2014) →	14	4% (2014)	14	3.8% (2014)
4a3 Social Media % enterprises (no financial sector, 10+ employees)	6.5% (2015) ↑	28	5.9% (2014)	28	18% (2015)
4a4 eInvoices % enterprises (no financial sector, 10+ employees)	n.a.	-	7.2% (2014)	20	n.a.
4a5 Cloud % enterprises (no financial sector, 10+ employees)	5.7% (2015) ↑	26	2.8% (2014)	28	n.a.
4b1 SMEs Selling Online % SMEs (no financial sector, 10+ employees)	7.4% (2015) ↑	24	7.3% (2014)	24	16% (2015)
4b2 eCommerce Turnover % turnover of SMEs (no financial sector, 10-249 employees)	4.9% (2015) ↑	24	4.3% (2014)	25	9.4% (2015)
4b3 Selling Online Cross-border % SMEs (no financial sector, 10+ employees)	1.9% (2015) ↓	28	3.4% (2013)	26	7.5% (2015)

A true digital economy is one where businesses take full advantage of the possibilities and benefits offered by digital technologies, both to improve their efficiency and productivity, as well as to reach costumers and realise sales. To that end, Romania has a long way to go.

The adoption of digital technologies is an important driver of labour productivity growth and needs to be strengthened. The percentage of businesses using technologies such as electronic information sharing (ERP – 22%) or social media (6.5%) in Romania is the lowest in the EU. The use of Cloud services doubled and reaches 5.7% but still is one of the lowest in the EU. Without digitisation and the efficiency and productivity gains obtained thereof, Romanian businesses will struggle to make it in the global digital economy.

Romanian businesses need also to take advantage of the possibilities offered by on-line commerce. Very few SMEs in Romania sell online (7.4%), even less SMEs sell online to other EU member states (1.9%), and those who do sell online make a very small share of their turnover from those sales (4.9%). Without the exploitation of on-line commerce Romanian businesses will have difficulties in competing in the global digital economy.

5 Digital Public Services

5 Digital Public Services	Romania		Cluster score	EU score
	rank	score		
DESI 2016	27	0.33	0.5	0.55
DESI 2015	28	0.27	0.45	0.54

For Digital Public Services Romania scores 0.33 (up from 0.27 last year) and improved its ranking to the 27th position.

	Romania				EU DESI 2015 value
	DESI 2015		DESI 2014		
	value	rank	value	rank	
5a1 eGovernment Users % individuals returning filled forms, out of Internet users in the last year (aged 16-74)	8% (2015) ↑	28	5.8% (2014)	28	33% (2015)
5a2 Pre-filled Forms Score (0 to 100)	5.5 (2015) ↓	28	6.6 (2014)	27	49 (2015)
5a3 Online Service Completion Score (0 to 100)	54 (2015) ↑	28	51 (2014)	25	81 (2015)
5a4 Open Data Score (0 to 700)	435 (2015) ↑	9	270 (2014)	21	351 (2015)

Modern public services offered online in an efficient manner are a vehicle for reduction of public administration expenditure as well as for efficiency gains for both enterprises and citizens. Romania's offer for online public services is among the least sophisticated. Its indicator scores⁸ place it among the last in the EU and show that the level of sophistication of its services needs to improve. Better online public services will also likely improve Romania's percentage of eGovernment users (8% of Internet users, the lowest in the EU).

Romanian made significant progress on promoting Open Data scoring 435 (up from 270).

⁸ 5.5/100 in the Pre-filled Forms indicator (measuring the extent to which data that is already known to the public administration is pre-filled in the forms that are presented to the user), and of 54/100 in the Online Service Completion indicator (measuring the extent to which the various steps in an interaction with the public administration – life event – can be performed completely online).