Digital Economy and Society Index (DESI) 2020

Romania

About the DESI

The European Commission has been monitoring Member States' digital progress through the Digital Economy and Society Index (DESI) reports since 2014. The DESI reports include both country profiles and thematic chapters. In addition, an in-depth telecoms chapter is annexed to the reports for each Member State.

The DESI country reports combine quantitative evidence from the DESI indicators across the five dimensions of the index with country-specific policy insights and best practices.

The current COVID-19 pandemic has shown how important digital assets have become to our economies and how networks and connectivity, data, AI and supercomputing as well as basic and advanced digital skills sustain our economies and societies by allowing work to continue, tracking the spread of the virus and accelerating the search for medications and vaccines.

Member States have put in place specific measures to mitigate the impact of the pandemic. A dedicated section in each country details them. Digital will also play a key role in the economic recovery as the European Council and the Commission have undertaken to frame the support to the recovery along the twin transition to a climate neutral and resilient digital transformation. In this framework, the deployment of 5G and very high capacity networks (VHCNs), digital skills, the digitisation of companies and the public administration are crucial for a robust recovery. The DESI monitors their progress in each Member State.

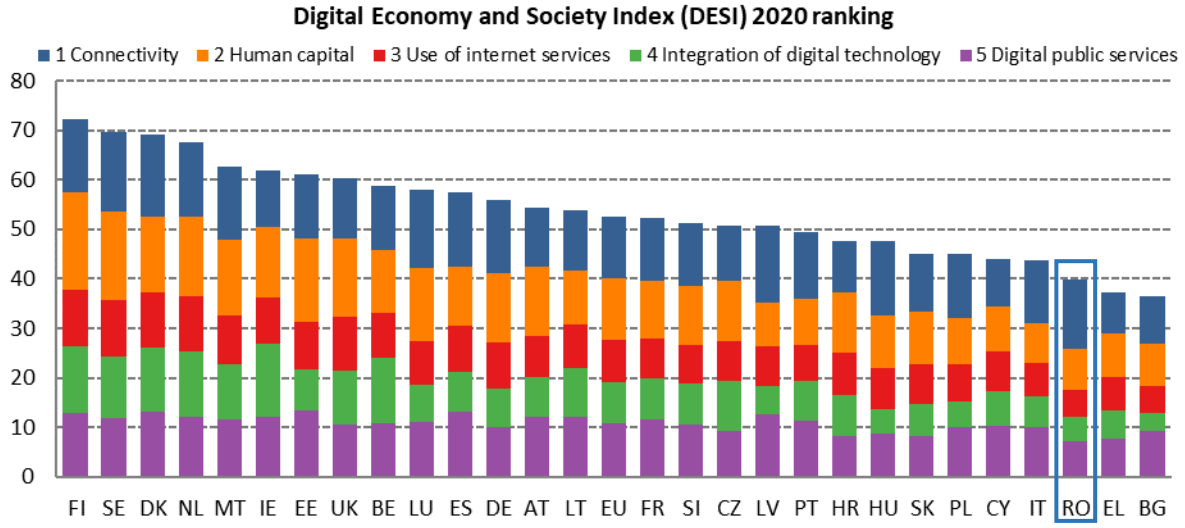
As regards the thematic chapters, the DESI 2020 report includes a European-level analysis of broadband connectivity, digital skills, use of the internet, digitisation of businesses, digital public services, emerging technologies, cyber security, the ICT sector and its R&D spending and Member States' use of Horizon 2020 funds.

To improve the methodology of the index and take account of the latest technological developments, a number of changes were made to the 2020 edition of DESI, which now includes Fixed very high capacity network (VHCN) coverage. The DESI was re-calculated for all countries for previous years to reflect the changes in the choice of indicators and corrections made to the underlying data. Country scores and rankings may thus have changed compared with previous publications. As the figures refer to 2019, the United Kingdom is still included in the 2020 DESI, and EU averages are calculated for 28 Member States. For further information, please consult the DESI website: https://ec.europa.eu/digital-single-market/en/desi.

It is noted that statements regarding planned or potential State aid measures record intentions declared by Member States and do not pre-judge or pre-empt the assessment of such measures by the Commission under the relevant state aid rules. The DESI report is not meant to provide any assessment of the compliance of such measures with state aid rules and procedures.

Overview

	Romania		EU
	rank	score	score
DESI 2020	**26**	**40.0**	**52.6**
DESI 2019	26	36.5	49.4
DESI 2018	26	35.1	46.5



Romania ranks 26th out of 28 EU Member States in the 2020 Digital Economy and Society Index (DESI).

Based on data prior to the pandemic, Romania's performance was the same in four of the five DESI dimensions measured. This is due to slow progress overall, but also due to political developments, as Romania has had four different governments over the last 3 years. Romania performs best on Connectivity dimension, thanks to the high take-up of ultrafast broadband and the wide availability of fixed very high capacity networks, especially in urban areas. 49% of Romanian homes subscribe to ultrafast (at least 100 Mbps) broadband, the fifth highest figure in the EU. However, digitisation of the economy lags behind, almost one fifth of Romanians have never used the internet, and less than a third have at least basic digital skills. Romania is well positioned as regards ICT graduates, as it ranks fifth, with 5.6% of all graduates (EU average: 3.6%), but on Digital public services and on Use of internet services, Romania has the lowest performance among the EU Member States.

In February 2015, Romania adopted its National Strategy on the Digital Agenda for Romania for 2020 (SNADR[(1)]) setting out four areas of action. The degree to which Romania has met the commitments of the strategy is unknown. It is also unclear whether Romania plans to evaluate the strategy's implementation and whether it intends to present a report on the state of play.

There have been two government decisions adopted recently that will affect the electronic communications sector and digitalisation in Romania.

Firstly, Government Decision No 89/2020 of 28 January 2020 provides for the organisation and the functioning of a new body, the Authority for the Digitalisation of Romania (ADR[(2)]). The ADR, under the coordination of the Prime Minister, takes over the Ministry of Communications and Information Society's activities and structures in the field of information technology, information society and the

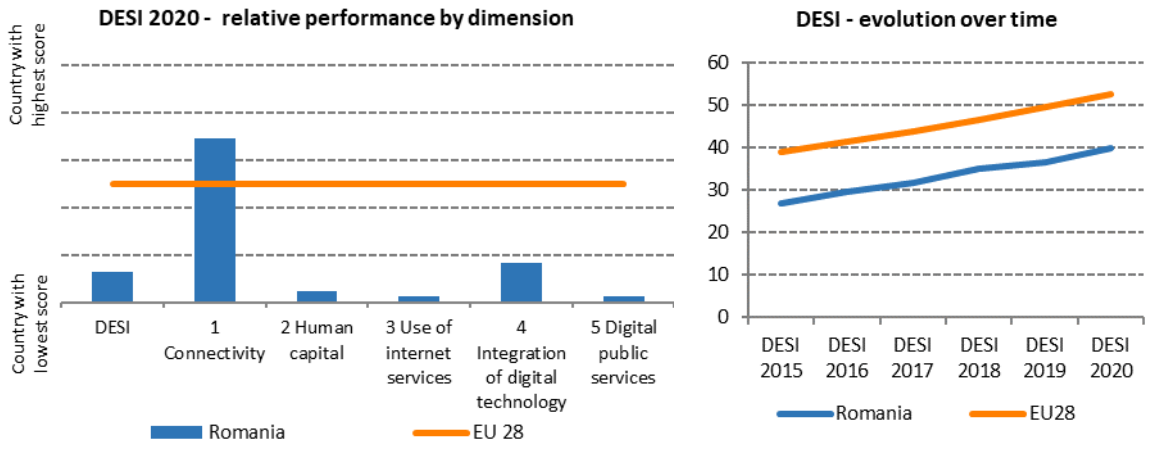
(1) https://www.comunicatii.gov.ro/agenda-digitala-pentru-romania-2020/

(2) Government Decision No 89/2020 on the organisation and functioning of the Authority for the Digitalisation of Romania, Official Gazette No 113 of 13 February 2020.

national interoperability framework. The ADR has the following responsibilities: (i) Drafting the action plans in the IT domain; (ii) Organizing and coordinating the implementation of the eGovernment and eAdministration projects; (iii) Coordinating the public policies for ensuring the interoperability of the IT system of the public administration; (iv) Monitoring and evaluating the IT systems of the central public administration in order to achieve the strategic objectives those systems are supporting; (v) Supervising and coordinating of all nation-wide government programs for IT infrastructure and services.

Under the new act, the Secretary-General of the Government will implement government policy on cyber security. The act also sets out at national level the strategies and public policies in the field of cyber security. In addition, the National Institute for Research and Development in Informatics (ICI) – the institute that manages the .ro internet domains – was transferred to the coordination of the Secretary-General of the Government.

Secondly, Government Decision No 90/2020 of 28 January 2020 abolishes the Ministry for Transport and the Ministry of Communications and Information Society and creates a new entity, the Ministry of Transport, Infrastructure and Communications. The new Ministry will have responsibilities for policy development in the area of electronic communications and the implementation of policies related to electronic communications infrastructure [3].



The role of digital to manage the coronavirus pandemic and to support the economic recovery

The current COVID-19 crisis is having an important impact on key societal indicators, relating to the use of internet services by citizens. This does not show in the latest 2019 official statistics as reported in DESI. Consequently, the DESI 2020 findings need to be read in conjunction with the strained demand that has been put on digital infrastructure and services during the pandemic and the immediate actions taken by the Member States. Similarly, as Europe progressively exits from the pandemic, the recovery must be planned taking into account the lessons learnt from this crisis. This means a particular attention to the indicators relevant for a stronger and more resilient digital transformation and economic recovery, notably very high capacity networks (VHCNs) and 5G, digital skills, advanced digital technologies for businesses and digital public services.

Romania has taken several targeted measures in digital to deal with the COVID-19 crisis. An application of the Ministry of Health serves for the centralisation of medical data on the situation

[3] Government Decision No 90/2020 on the organisation and functioning of the Ministry of Transport, Infrastructure and Communications, published in Official Gazette No 127 of 19 February 2020.

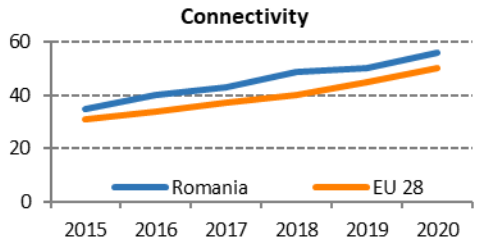
caused by the COVID-19 virus. A website[4] has been set up for companies to submit electronically the documentation necessary for granting technical unemployment. Another initiative[5] is helping people who have been made redundant due to the COVID-19 situation and are actively looking for work. Several information websites[6] have been created in order to provide clear information, increase transparency, to reduce panic, to tackle disinformation, to explain the risks and inform about prevention measures. A platform[7] is providing support to Romanian citizens living abroad, who are directed towards specific help based on their needs. Several websites[8] have been set up for providing support for hospitals, but also for the coherent and safe collection and distribution of aid. Based on a government decision adopted on 7 May 2020, the budget of the Ministry of Education has been supplemented with the amount of 150 million lei (~24 million EUR) for 2020 for the acquisition of laptops for 250,000 children. The objective is to ensure access to distance learning activities for students from disadvantaged backgrounds, enrolled in pre-university education units.

Looking forward, as regards the DESI indicators that are especially relevant for the economic recovery after the COVID-19 crisis, Romania is very advanced on VHCN coverage and is 14th regarding 5G readiness in the EU. On the other hand, it lags behind in the digital skills indicators, has a weak performance in the digitisation of businesses and in digital public services.

[4] https://aici.gov.ro
[5] https://datafara.ro
[6] https://stirioficiale.ro/, https://datelazi.ro/, https://fiipregatit.ro, https://cetrebuiesafac.ro/
[7] https://diasporahub.ro/
[8] https://www.ajutorspitale.ro; https://spitale.quickdata.ro; https://thefutureisnow.ro; https://rohelp.ro/

1 Connectivity

1 Connectivity	Romania		EU
	rank	score	score
DESI 2020	**11**	**56.2**	**50.1**
DESI 2019	8	50.0	44.7
DESI 2018	6	48.8	39.9



	Romania			EU
	DESI 2018 value	DESI 2019 value	DESI 2020 value	DESI 2020 value
1a1 Overall fixed broadband take-up % households	**67%** 2017	**66%** 2018	**66%** 2019	**78%** 2019
1a2 At least 100 Mbps fixed broadband take-up % households	**44%** 2017	**45%** 2018	**49%** 2019	**26%** 2019
1b1 Fast broadband (NGA) coverage % households	**74%** 2017	**76%** 2018	**82%** 2019	**86%** 2019
1b2 Fixed Very High Capacity Network (VHCN) coverage % households	**61%** 2017	**63%** 2018	**68%** 2019	**44%** 2019
1c1 4G coverage % households (average of operators)	**72%** 2017	**77%** 2018	**85%** 2019	**96%** 2019
1c2 Mobile broadband take-up Subscriptions per 100 people	**82** 2017	**86** 2018	**86** 2019	**100** 2019
1c3 5G readiness Assigned spectrum as a % of total harmonised 5G spectrum	**NA**	**0%** 2019	**21%** 2020	**21%** 2020
1d1 Broadband price index Score (0 to 100)	**NA**	**NA**	**92** 2019	**64** 2019

Romania ranks 11th in the Connectivity dimension. In 2019, it improved in terms of coverage while stagnating in terms of take-up. Notably, fast broadband coverage increased to 82% but still lags behind most Member States (EU average of 86%). Broadband take-up stalled at 66 % of households in the third year in a row and it is well below the EU average of 78%. The strong infrastructure-based competition in Romania, mainly in urban areas, is reflected in the indicators in which the country performs very well, namely fixed very high capacity network (VHCN) coverage and at least 100 Mbps fixed broadband take-up (68 % and 49 % respectively). However, Romania's urban-rural digital divide is illustrated by the figures for VHCN coverage, where only 39% of rural areas are covered (albeit, double the EU average of 20%). As regards take-up of at least 100 Mbps broadband, Romania still largely outperforms the EU average (49% versus 26%) a 4 percentage point improvement compared to last year. Romania lags behind on 4G coverage (85%, well below the EU average of 96%). The mobile broadband take-up indicator that stagnated in the past year places Romania amongst the least performing Member States, despite the significant drop in broadband prices. Romania ranks first in the EU in terms of broadband prices when analysing all product baskets (fixed, mobile, converged). It is leading in terms of mobile and converged baskets with an index of 97 and 91 respectively. In terms of fixed broadband prices, Romania ranks second in the EU.

The Romanian national broadband plan adopted in 2015 has not yet been updated to reflect the gigabit society targets. To address the urban-rural digital divide, Romania has accessed EU funding under the 2014-2020 financial framework. Firstly, the Romanian Operational Programme for Competitiveness has €100 million earmarked from the European Regional Development Fund (ERDF). Secondly, the 2014-2020 Rural Development Operational Programme initially provided for an

indicative amount of €25 million from the European Agricultural Fund for Rural Development (EAFRD) under the LEADER programme[9], out of which less than €2 million were actually allocated to broadband infrastructure measures. In addition, the RoNet project to support deployment of backhaul networks in 'white areas' was granted ERDF financing of €45 million, ensuring broadband backhaul infrastructure for a target of 696 localities. At the end of December 2019, the national authorities reported the finalisation of works in 606 localities, while works are at an advanced stage of completion in an additional 82 localities. A new grant scheme for next-generation networks (NGN) deployment, with a total contracted budget of €59 million, provides support to private operators deploying backhaul and last-mile access infrastructure for additional localities in white areas. The project aims to cover 160,000 households in the 'white areas'.

Several disputes over access to physical infrastructure are pending between operators and utilities providers, with the longest outstanding for more than a year. ANCOM, the designated dispute settlement body, has issued a first decision on one of these disputes in March 2020[10].

Romania scores 21% in the 5G readiness indicator[11], same as the EU average. Overall, in Romania, 38% of the spectrum harmonised at EU level for wireless broadband has been assigned. A national strategy for the implementation of 5G in Romania was adopted in June 2019. The document expects an impact on the Romanian economy of 250,000 jobs and €4.7 billion in revenues. The National Strategy foresees the organisation of a multi-band spectrum auction in the 700 MHz, 800 MHz, 1500 MHz, 2600 MHz and 3400-3600 MHz bands. However, the auction process was delayed until the second quarter of 2020. The reasons behind the delay are: (i) the adoption of Emergency Ordinance No 114/2018[12] setting high reserve prices beyond European benchmark levels and increased minimum fees for the renewal of existing licences; and (ii) the transposition into national legislation of the memorandum signed by Romania with the US State Department on the security of 5G infrastructure.

While 5G licencing seems to be on track, the cumbersome authorisation process could prove to be a serious bottleneck for the deployment of 5G infrastructure.

[9] 'LEADER' is the French acronym for 'Liaison Entre Actions de Développement de l'Économie Rurale', meaning 'Links between the rural economy and development actions'.

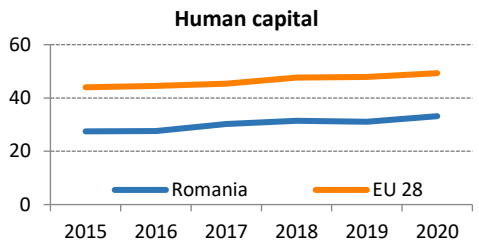
[10] https://www.ancom.ro/uploads/articles/file/Legea%20infrastructurii%202016/DECIZIE%20solutionare%20litigiu%20Digital%20Catv_SDEE.pdf

[11] The 5G spectrum readiness indicator is based on the amount of spectrum already assigned and available for 5G use by 2020 within the 5G pioneer bands in each EU Member State. For the 3.4-3.8 GHz band, this means that only licences aligned with the technical conditions in the Annex to Commission Decision (EU)2019/235, are considered 5G-ready. For the 26 GHz band, only assignments aligned with the technical conditions in the Annex to Commission Implementing Decision (EU) 2019/784 are taken into account. By contrast, the percentage of harmonised spectrum takes into account all assignments in all harmonised bands for electronic communications services (including 5G pioneer bands), even if this does not meet the conditions of the 5G readiness indicator.

[12] Published in Romania's Official Journal of Romania on 29 December 2018. The Emergency Ordinance set a very high level for the reserve price, beyond European benchmark levels for future licences, and similarly increased minimum fees for the renewal of existing licences. In addition, the Emergency Ordinance substantially raises the yearly monitoring tariff levied on the sector. These provisions were subsequently amended through Emergency Ordinance No 54/2019 of 4 July 2019.

2 Human capital

2 Human capital	Romania		EU
	Rank	Score	Score
DESI 2020	**27**	**33.2**	**49.3**
DESI 2019	27	31.1	47.9
DESI 2018	28	31.5	47.6



	Romania			EU
	DESI 2018 value	DESI 2019 value	DESI 2020 value	DESI 2020 value
2a1 At least basic digital skills % individuals	**29%** 2017	**29%** 2017	**31%** 2019	**58%** 2019
2a2 Above basic digital skills % individuals	**10%** 2017	**10%** 2017	**10%** 2019	**33%** 2019
2a3 At least basic software skills % individuals	**32%** 2017	**32%** 2017	**35%** 2019	**61%** 2019
2b1 ICT specialists % total employment	**2.0%** 2016	**2.1%** 2017	**2.2%** 2018	**3.9%** 2018
2b2 Female ICT specialists % female employment	**1.2%** 2016	**1.3%** 2017	**1.2%** 2018	**1.4%** 2018
2b3 ICT graduates % graduates	**5.4%** 2015	**4.9%** 2016	**5.6%** 2017	**3.6%** 2017

Romania ranks 27th out of 28 EU countries on Human capital and its ranking stagnated in comparison to the previous year. At least basic digital skills and at least basic software skills levels rank 27th among EU Member States. Less than one third of people aged between 16 and 74 have at least basic digital skills (58% in the EU as a whole), while 35% have at least basic software skills (against an EU average of 61%). As for above basic digital skills, Romania is last in the EU with only 10% of individuals. Although there was a slight increase on the previous year in the percentage of ICT specialists, they represent a much lower proportion of the workforce than in the EU as a whole (2.2%, against an EU average of 3.9%). Female ICT specialists account for 1.2% of total female employment. In contrast, Romania is performing well with regard to ICT graduates, ranking 5th among EU Member States, with 5.6% of all graduates.

The Ministry of Education and Research is implementing the 2014-2020 national strategy for strengthening public administration. In addition, the Ministry is implementing an administrative simplification project for the national education system, with a budget of RON 28 million (approx. €6 million) from SIPOCA (Structural Instruments under the Administrative Capacity Operational Programme).

The 'Wi-Fi Campus' project, a national wireless internet platform already in the implementation phase, will provide wireless internet access service for schools (based on wi-fi), with priority on secondary schools. The project's specific objectives are: (i) creating the technical infrastructure necessary for the use of OER and WEB 2.0 type resources and services in education in a minimum 2,000 schools; (ii) equipping 4,500 middle schools with wireless equipment, reaching 1,000,000 students and teachers; and (iii) increasing by 15% the share of teachers who use the internet via wireless campus. The project has funding of about RON 210 million (approx. €45 million), of which about RON 177 million (approx. €38 million) are non-reimbursable EU funds (from the ERDF).

On 10 September 2019, the Ministry of Communications and the Information Society, together with the Ministry of European Funds and the Ministry of Education, announced the signing of contracts for

two major digitalisation projects in the field of education: 'The school management information system (SIMS - Electronic Catalogue)' and 'Digital platform with open educational resources (EDULIB - Virtual Library)'. The combined value of the projects is close to €98 million[13].

The first project, the School Management Information System (SIMS), aims to achieve, in an online environment, the management of schooling based on the flows set out in the eGOV project (online enrolment in high school, implementation of the electronic class registers and online evaluation of the papers written in national exams). The project will run for 3 years and has funding of RON 225 million (approx. €48 million), of which about RON 191 million (approx. €40 million) are non-reimbursable EU funds (ERDF).

The EDULIB – Virtual Library open educational resources digital platform projects aims to create a digital platform with open educational resources, mainly for high schools, facilitating free access to electronic textbooks and other electronic educational resources. The project also involves supplying 5,400 secondary schools with a multimedia kit. The project will run for 2 years and has funding of about RON 230 million (approx. €49 million), of which about RON 195 million (approx. €41 million) are non-reimbursable EU funds (ERDF).

SIMS and EDULIB form a platform of resources and management for the education, teaching, learning and evaluation system. The SIMS, EDULIB and Wi-Fi Campus projects are concrete actions in support of education in transition to a digital age.

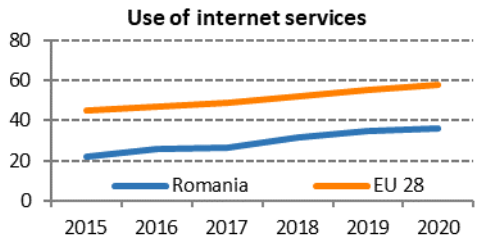
Romania has a National Coalition for Digital Skills and Jobs[14], known as Skills4IT[15]. This open platform includes several stakeholders, ICT companies, associations, training providers and NGOs involved in the digital transformation and has political backup from the Ministry of Transport, Infrastructure and Communication and the Education Ministry. Activities focus on rolling out coding and IT classes in schools, organising cybersecurity courses and educational events. The coalition also provides training to upgrade the digital skills of the labour force. The coalition's activities are in line with the National Strategy for Digital Romania 2020, having as objective the development of digital skills.

Although there are several projects led by the government that envisage improving digital skills levels around the country, the results to date remain limited. As digital infrastructure and digital skills are key to unlocking the benefits of digitalisation, coordinated and targeted efforts are necessary to improve digital competences not only in schools, but also in the labour force and among elderly people.

[13] https://www.news.ro/economic/ministerul-comunicatiilor-a-semnat-contractele-de-finantare-pentru-catalogul-electronic-si-biblioteca-virtuala-proiecte-de-aproape-98-milioane-euro-1922404910412019091819110274
[14] https://ec.europa.eu/digital-single-market/en/national-local-coalitions
[15] http://coalitiait.ro/

3 Use of internet services

3 Use of internet services	Romania		EU
	Rank	score	score
DESI 2020	**28**	**35.9**	**58.0**
DESI 2019	28	35.0	55.0
DESI 2018	28	31.5	51.8



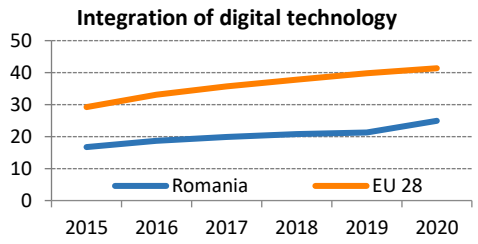
	Romania			EU
	DESI 2018 value	DESI 2019 value	DESI 2020 value	DESI 2020 value
3a1 People who have never used the internet % individuals	**27%** 2017	**21%** 2018	**18%** 2019	**9%** 2019
3a2 Internet users % individuals	**61%** 2017	**68%** 2018	**72%** 2019	**85%** 2019
3b1 News % internet users	**69%** 2017	**69%** 2017	**55%** 2019	**72%** 2019
3b2 Music, videos and games % internet users	**67%** 2016	**63%** 2018	**63%** 2018	**81%** 2018
3b3 Video on demand % internet users	**6%** 2016	**10%** 2018	**10%** 2018	**31%** 2018
3b4 Video calls % internet users	**53%** 2017	**51%** 2018	**67%** 2019	**60%** 2019
3b5 Social networks % internet users	**82%** 2017	**86%** 2018	**82%** 2019	**65%** 2019
3b6 Doing an online course % internet users	**5%** 2017	**5%** 2017	**4%** 2019	**11%** 2019
3c1 Banking % internet users	**11%** 2017	**10%** 2018	**11%** 2019	**66%** 2019
3c2 Shopping % internet users	**23%** 2017	**26%** 2018	**29%** 2019	**71%** 2019
3c3 Selling online % internet users	**4%** 2017	**5%** 2018	**3%** 2019	**23%** 2019

The Use of internet services in Romania continues to be the lowest among the EU Member States, which is in correlation with the low level of basic digital skills around the country (see previous chapter). 18% of individuals aged 16-74 have never used the internet (EU average: 9%). Nevertheless, there are two online activities in which the country ranks 6th in the EU. These are the use of social networks (82%, versus an EU average of 65%) and video calls (67%; EU average: 60%). In contrast, the use of online banking (11%), shopping (29%), reading news (55%), as well as the consumption of music, videos and games online (63%), is lowest among EU Member States, mainly due to a lack of trust in digital technology. The low level of online banking is also due to more than two out of five (42%)[16] Romanian adults not having a bank account. Only 3% of Romanian internet users sell online and 4% follow online courses.

[16] World Bank, *Global Findex Database 2017,* https://globalfindex.worldbank.org/

4 Integration of digital technology

4 Integration of digital technology	Romania		EU
	rank	score	score
DESI 2020	**27**	**24.9**	**41.4**
DESI 2019	27	21.3	39.8
DESI 2018	27	20.8	37.8



	Romania			EU
	DESI 2018 value	DESI 2019 value	DESI 2020 value	DESI 2020 value
4a1 Electronic information sharing % enterprises	**22%** 2017	**22%** 2017	**23%** 2019	**34%** 2019
4a2 Social media % enterprises	**9%** 2017	**9%** 2017	**8%** 2019	**25%** 2019
4a3 Big data % enterprises	**11%** 2016	**11%** 2018	**11%** 2018	**12%** 2018
4a4 Cloud % enterprises	**6%** 2017	**7%** 2018	**7%** 2018	**18%** 2018
4b1 SMEs selling online % SMEs	**8%** 2017	**8%** 2018	**11%** 2019	**18%** 2019
4b2 e-Commerce turnover % SME turnover	**5%** 2017	**5%** 2018	**5%** 2019	**11%** 2019
4b3 Selling online cross-border % SMEs	**2%** 2017	**2%** 2017	**6%** 2019	**8%** 2019

Romania ranks 27th among EU countries on the Integration of digital technology by businesses, well below the EU average. Romania's ranking remained stable in this area compared to the last 2 years. There was almost no change in any of the indicators. 23% of Romanian enterprises share information electronically, while only 8% use social media (EU average: 25%). There was a slight improvement in the share of SMEs selling online, from 8% in 2017 to 11% in 2019, but this remains well below the EU average of 18%. SMEs are increasingly selling online across borders, but this applies to only 6% of the total number of SMEs, compared to an EU average of 8%.

Romania does not have a national digital transformation strategy for enterprises. Romania supports the ecosystem of start-ups through the Start-up Nation programme, including start-ups that produce innovations or integrate them into new product and service developments.

In Romania, there are currently three hubs for digital innovation (HDIs), one in Bucharest and two in Cluj-Napoca.

Romania is a member of the EuroHPC Joint Undertaking. The Minister of Communications and Information Society expressed Romania's interest in participating in the Consortium for the Barcelona Supercomputing Center as host site for the pre-Exascale supercomputers. The main target for the moment is the implementation of HPC Competence Centres. However, Romania has not yet provided any formal financial commitment to EuroHPC as regards budget or timing.

On blockchain, the National Institute for Research and Development in Informatics (ICI Bucharest) has taken an active role since 2017 in the emerging technologies of Industry 4.0. Blockchain is a vital part of this technology. In this context, the Institute created the European Center for Excellence in Blockchain – ECEB[17], as a hub for sharing experience between experts, academics, students and

[17] www.eceb.ro

business people in Romania. As an R&D institute, ICI Bucharest has developed substantial 'in vitro' pilot projects for system-of-systems architectures based on blockchain technology. ICI Bucharest is self-financing activities on blockchain, within the limits of its institutional budget.

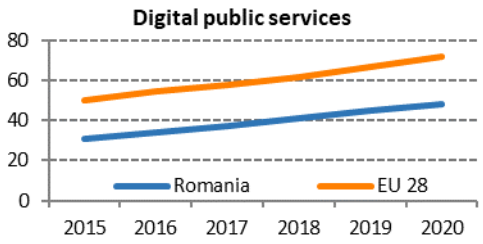
ICI Bucharest's blockchain initiative has a number of expected outcomes: (i) the continuous signing of partnerships with entities in this field of activity; (ii) the implementation of solutions from the pilot studies in collaboration with the Romanian Government; (iii) national and international collaborations with companies, institutions and universities; and (iv) finding the necessary funds for future activities.

On cybersecurity, Law No 362/2018 concerning measures for a high common level of security of network and information systems came into force in January 2019. The new law aims to increase the level of preparedness to cope with computer security incidents and to increase citizens' trust in the digital single market. This law applies to operators of essential services (OESs) and digital service providers (DSPs).

Romania would benefit from a national strategy focusing on the digital transformation of enterprises. Targeted measures are needed to support the digitisation of SMEs and raise awareness on the relevance and benefits of adopting digital technologies.

5 Digital public services

5 Digital public services	Romania		EU
	rank	score	score
DESI 2020	**28**	**48.4**	**72.0**
DESI 2019	28	45.0	67.0
DESI 2018	28	41.1	61.8



	Romania			EU
	DESI 2018 value	DESI 2019 value	DESI 2020 value	DESI 2020 value
5a1 e-Government users % internet users needing to submit forms	**80%** 2017	**82%** 2018	**82%** 2019	**67%** 2019
5a2 Pre-filled forms Score (0 to 100)	**12** 2017	**10** 2018	**10** 2019	**59** 2019
5a3 Online service completion Score (0 to 100)	**62** 2017	**67** 2018	**70** 2019	**90** 2019
5a4 Digital public services for businesses Score (0 to 100) - including domestic and cross-border	**51** 2017	**53** 2018	**53** 2019	**88** 2019
5a5 Open data % of maximum score	**NA**	**NA**	**57%** 2019	**66%** 2019

On Digital public services, Romania ranked last among EU Member States during the last 3 years. Romania does rank eighth for e-government users, with 82% of internet users, versus an EU average of 67%. However, this high level of online interaction between public authorities and the public concerns only those internet users who need to submit forms. The low scores for pre-filled forms and online service completion, where the country ranks 28th, indicate a systemic problem with the quality and usability of the services offered. There was no improvement in digital public services for businesses, for which Romania also ranks last.

The lack of interoperability of IT systems in the public administration has been an issue for years, one that no government has yet managed to resolve. In June 2019, a public consultation was launched on the draft law establishing a national reference framework for achieving interoperability in ICT ('CNRTIC'). The aim is to bring to fruition the vision expressed in the 2017-2020 programme of the government (specifically in the chapter on 'Policies in the field of communications – Digital convergence'), to achieve a simplification of procedures and reduction of bureaucracy through e-government. The draft law would establish a general framework to manage the interoperability of the IT systems of public institutions that provide services to the public. The draft law is currently pending before Parliament.

Romania's eIDAS (electronic identification) node is still in the process of being built through an ERDF-financed project ('SITUE') that should be finalised by the end of 2020. The high cost of a qualified digital signature (around €40/year per user) is the main challenge when it comes to providing a digital identity for all citizens.

The main barriers to achieving digital public services in Romania are: (i) the lack of coordination between public institutions in setting up such services; (ii) the migration of IT specialists from the public sector to the private sector or to other countries; and (iii) the overall lack of digital skills. A well-implemented eGovernment solution would help enterprises to carry out their business with government more easily, more quickly and at lower cost. The adoption of the Interoperability Law and its implementation by all public bodies involved would be a first step towards improvements in digital public administration.

Highlight 2020: Strategic technical support for the central digitalisation projects of the Romanian central authorities

The Romanian Ministry of Communication and Information Society is implementing with the support of EU funds (Technical Assistance OP) since 2016 a strategic technical assistance project, targeted at helping the central authorities and ministries draft and implement key digitalisation projects around the public services involved in the "life events" of citizens and companies, e-health, e-IDAS node, digital ID, all according to the Digital Agenda of Romania (2020). It enabled key ministries like the Ministry of the Interior and the Ministry of Labour to sign contracts (ERDF funding) for building the IT systems necessary for the digital delivery of public services like the Civil Status registries, the child protection and adoption system, the public support for disabled persons system, etc. Once completed these contracts will enable citizens to gain access through digital means to several key public services, a feature long-awaited by the Romanian public and companies. Thus in around 3 years' time services like registering a birth or obtaining public support for a disability will become easily available through digital means (sophistication of the 4th degree).