

ROMANIA'S PRESENT READINESS TOWARDS DIGITAL TRANSITION

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Abstract

In the present time, the digital economy has become an almost perfectly integrated part of our daily lives, our daily activities, profoundly impacting various sectors and industries and reshaping the global economy. From communication to education, from governance to entertainment, digitalization has filled every aspect of our lives, giving rise to a new concept, namely the digital society. In-depth discussion concerning EU's readiness for digital transition is provided in this article, with a special focus on Romania, it's neighbors members and the EU. Examined are its main causes, how it transforms industries, and how it affects individuals and civilizations. Understanding the dynamics of the digital economy is essential for businesses, policymakers, and individuals alike, as well as for the broader society, as digital technologies continue to evolve at an unprecedented rate.

Keywords: digital economy, digital society, DESI, EU

JEL Classification: O1, O3

1. Introduction

The digital economy refers to the economic all activities that are conducted through digital technologies, networks, and platforms. It encompasses a wide range of sectors, including e-commerce, digital services, online marketplaces, and data-driven innovation. Globally, businesses, governments, and people are all being impacted by the digital economy, which has emerged as a significant driver of economic growth and transformation.

One of the key aspects of the digital economy is the reliance on digital infrastructure. This includes high-speed internet, mobile networks, and data centers that provide the necessary foundation for digital transactions and interactions. Connectivity plays a crucial role in enabling businesses to reach global markets and consumers to access a vast array of products and services. The availability of digital infrastructure is essential for ensuring the smooth functioning of the digital economy.

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Digital technologies are the backbone of the digital economy itself. Innovations as artificial intelligence, blockchain, or the Internet of Things have deeply changed the business environment, almost all industries the society itself. These technologies enable automation, improve efficiency, and drive innovation in various sectors. For example, AI-powered chatbots enhance customer service experiences, while big data analytics provide valuable insights for business decision-making.

New entrepreneurship and innovation opportunities have been made possible by the digital economy. Digital platforms can be used by startups and small companies to penetrate international markets and compete with established firms. The equal playing field created by internet operations' low entry barriers and lower operating expenses has encouraged innovation and economic expansion.

Another significant advantage of the digital economy is enhanced productivity and efficiency. Digital technologies streamline business processes, automate routine tasks, and enable real-time data analysis. This leads to improved productivity and cost savings for businesses. Additionally, the digital economy offers convenience and empowerment for consumers. They have access to a wide range of products and services online, personalized experiences, and convenient shopping options.

In recognition of their critical roles in fostering economic growth, innovation, and societal advancement, the European Union (EU) focuses a lot of attention on both the digital economy and the digital society. The digital economy within the EU refers to the economic activities and transactions that are conducted through digital technologies, networks, and platforms. It encompasses sectors such as e-commerce, digital services, online marketplaces, fintech, digital manufacturing, and data-driven innovation. The EU has been striving to create a digital single market, aiming to remove barriers and harmonize regulations to facilitate cross-border digital transactions, promote fair competition, and enhance consumer trust.

To promote the digital economy, the EU has implemented policies to support innovation and entrepreneurship. The Horizon 2020 program, one of the most important EU's R&I provided framework, and still does, consistent funding and support for digital innovation projects across various sectors. Additionally, initiatives such as the Digital Europe Program³ and the European Innovation Council⁴ focus on driving digital transformation, supporting startups, and fostering digital skills development.

Digital society within the EU focuses on the broader impact of digital technologies on people's lives, communities, and social interactions. It encompasses aspects such as digital inclusion, digital literacy, online safety, and the protection of fundamental rights in the

³ https://commission.europa.eu/funding-tenders/find-funding/eu-funding-programmes/digital-europe-programme_en

⁴ https://eic.ec.europa.eu/index_en

digital realm. The EU recognizes the importance of ensuring that all citizens have access to digital technologies and the skills necessary to navigate and benefit from the digital world.

The EU's digital society initiatives include efforts to bridge the digital divide and promote digital skills development. The Digital Education Action Plan⁵ focuses on enhancing digital skills among EU citizens, students, and educators, with a particular focus on promoting digital literacy in schools and vocational training programs. The EU also supports initiatives to enhance online safety, protect personal data, and promote digital rights through regulations such as the General Data Protection Regulation (GDPR)⁶.

Furthermore, the EU aims to foster a secure and trustworthy digital environment. Cybersecurity is also a priority, and the EU has established the Cybersecurity Act⁷ and the Network and Information Security (NIS) Directive⁸ to enhance cybersecurity measures and strengthen cooperation among member states. These initiatives aim to protect critical infrastructure, digital services, and personal data from cyber threats and cyber-attacks.

2. Digital Economy and Society Index

Through the Digital Economy and Society Index (DESI), the European Commission has been constantly evaluating the digital economy and society readiness for all 27 member states. Every year, DESI will release national profiles for each member state, helping every EU member to better identify areas needing urgent action and crucial analysis for supporting policy decisions.

The digital economy landscape today is marked by several key trends and drivers that are shaping its growth and impact:

- technology is advancing quickly, including blockchain, cloud computing, artificial intelligence, and machine learning.
- increasing global internet connectivity and widespread adoption of smartphones
- data has emerged as a distinct asset in the digital economy.
- digital platforms, like the vast ecosystems created by Amazon or Google have become essential instruments of our daily interactions, boosting furthermore the need for digital environment.

⁵ <https://education.ec.europa.eu/focus-topics/digital-education/action-plan>

⁶ <https://gdprinfo.eu/>

⁷ <https://digital-strategy.ec.europa.eu/en/policies/cybersecurity-act>

⁸ <https://www.enisa.europa.eu/topics/cybersecurity-policy/nis-directive-new>

On the other hand, the digital society is characterized by several defining features that shape its operation and collaborations. First, it is characterized by widespread connectivity, with billions of people having access to the internet and digital devices. Secondly, to be able to operate accordingly and to be efficient in all presumed activities, individuals need to possess the ability to navigate digital tools, critically evaluate information, and adapt to evolving technologies.

Overall, the pandemic determined a boost within the existing trends, especially concerning the remote work activities, e-commerce as well as exacerbated labor mobility, specific to some industries. These trends, however, have not affected citizens and enterprises in the same manner, and did not affect all EU member states equally.

Most of the members made significant progress in their digital transformation, the adoption of digital technologies throughout the entire business environment. More and more services, including essential ones, are shifted online.

Finland, Denmark, the Netherlands, and Sweden are the EU frontrunners⁹. The other countries are advancing as well, and some convergence trend can be seen in the EU. Still, there are also members lagged far from the EU average, namely Italy, Poland, Greece, or Romania.

The current geopolitical context, with a war at EU eastern borders make cybersecurity, and the digital society perspective more and more relevant. The risk of online disinformation is a true threat for all of us today, but also to the proper functioning of our democracies, our societies, and our region. As a result, the revision of the EU Code of Practice on Disinformation¹⁰ and the Digital Services Act¹¹ is expected to ensure decisive measures to counter online disinformation.

In 2021, within the EU, 87% of people (ages 16 to 74) routinely utilized the internet, while only 54% had at least fundamental digital abilities, according to Eurostat statistics. The leaders are the Netherlands and Finland, while Romania and Bulgaria are lagging at the end of the list. Even though most of the employment in the EU demand basic digital skills, a sizable portion of the population still lacks them. Only 19% of ICT professionals and one in three STEM (science, technology, engineering, and/or mathematics) graduates are women, indicating a serious gender imbalance. It is obvious that experts are needed to work in and comprehend the new digital economy and society. In the coming decades, it remains to be seen whether the need for competent work will be met by humans or machines.

In terms of connectivity, even if the EU has full broadband coverage, only 70% of homes have access to fixed very high-capacity networks (VHCN) connectivity, which can provide gigabit speeds¹². Fixed VHCN encompasses cable DOCSIS 3.1 (data over cable service

⁹ <https://ec.europa.eu/newsroom/dae/redirection/document/88764> page nr 8

¹⁰ <https://digital-strategy.ec.europa.eu/en/policies/code-practice-disinformation>

¹¹ <https://digital-strategy.ec.europa.eu/en/policies/digital-services-act-package>

¹² https://ec.europa.eu/newsroom/dae/document.cfm?doc_id=70034

interface protocol) and FTTP (fiber-to-the-premises) technologies. While DOCSIS 3.1 penetration, according with the same source increased from 28% in 2020 to 32% in 2021, FTTP coverage climbed from 43% in 2020 to 50% in 2021. Coverage of rural fixed VHCN increased as well, rising from 29% in 2020 to 37% in 2021. There is still a considerable disparity between rural and overall statistics. The most advanced Member States in terms of total fixed VHCN coverage are Malta, Luxembourg, Denmark, Spain, Latvia, the Netherlands, and Portugal (all of which have more than 90% of residences covered). Additionally, 5G penetration increased last year, reaching 66% of the EU's inhabited areas.

If, in terms of connectivity, overall, the numbers look good within the EU, only 55% of small and medium-sized businesses had adopted the digital competences to at least a basic level in 2021, a year dominated by the need for online interactions, due to the pandemic. The highest rates of SME digitalization are seen again in Sweden and Finland (86% and 82%, respectively), while the lowest rates are found in Romania and Bulgaria.

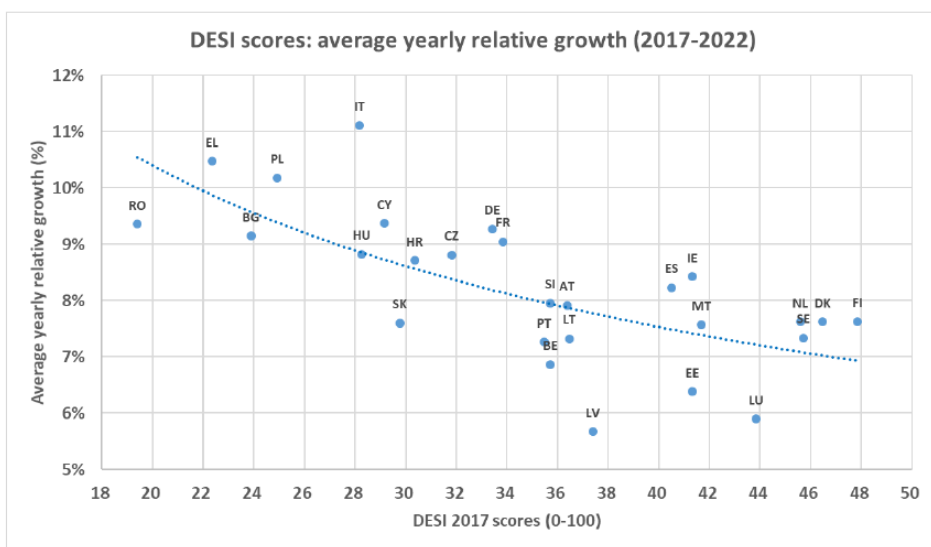


Figure 1. Digital Economy and Society Index – EU Member States’ relative progress in the period 2017-2022¹³

The above chart illustrates how Member States have progressed over the past five years in terms of the general degree of digitalization of their economies and societies. Between 2017 and 2022, the EU exhibited a convergence pattern, according to DESI scores. The estimated pattern of convergence is represented by the blue line in the figure. The convergence curve overestimated growth in the nations above the blue line.

¹³ <https://ec.europa.eu/newsroom/dae/redirection/document/88764> page nr 17

According with the latest report result, Italy is the greatest of the top group because it expanded at a rate that was noticeably faster than anticipated between 2017 and 2022. Germany, Ireland, France, and Poland round out the top 5 overperformers after Poland. In the bottom group of nations, Latvia's score increased significantly more slowly than predicted by the convergence curve, departing from the general pattern of convergence. Along with Luxembourg, Romania, Belgium, Slovakia, and Estonia, these countries significantly stray from convergence.

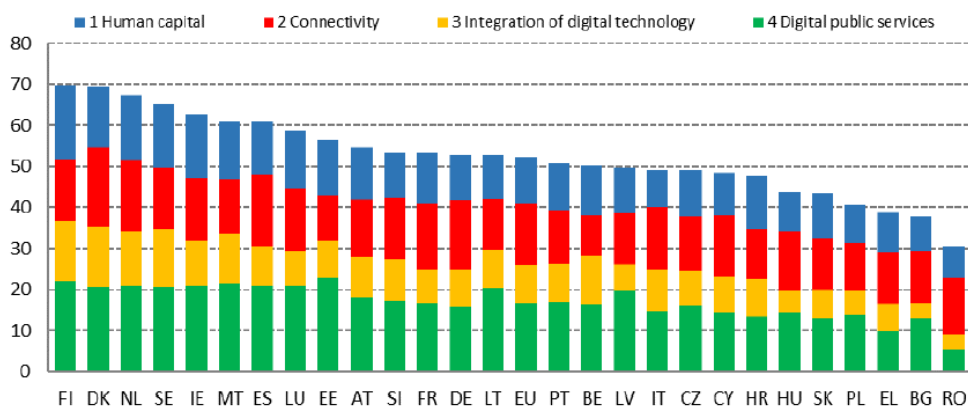


Figure 2. Digital Economy and Society Index, 2022¹⁴

As it can be seen in the above figure, there are some significant disparities between some western EU member states and most ex-communist eastern countries, one exception here being Baltic member states. Another aspect to be mentioned here is the fact disparities can be identified even among the already group of countries, some countries being better positioned in some categories among their group average or EU average as well.

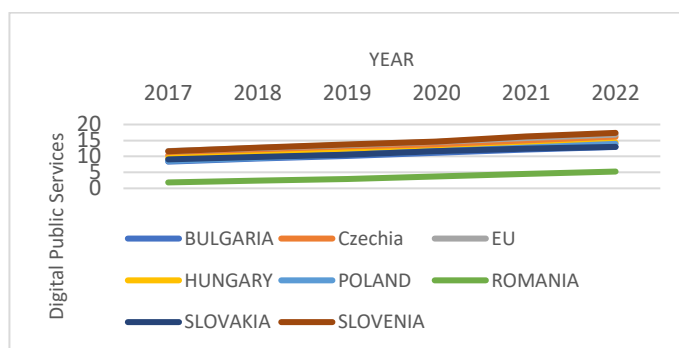


Figure 3. Digital Public Services DESI 2022(EU's average and country selection)¹⁵

¹⁴ <https://ec.europa.eu/newsroom/dae/redirection/document/88764> page nr 19

¹⁵ made by the authors, data source <https://digital-agenda-data.eu/datasets/desi/indicators>

Discussing the Digital Public Services, we can easily observe the difference between the EU’s average and the recorded score obtained by countries such Bulgaria, Poland, or Hungary. But among these countries Romania is showing an almost disastrous situation, with a significant gap compared with Bulgaria or Slovakia, last in line but still ahead of it.

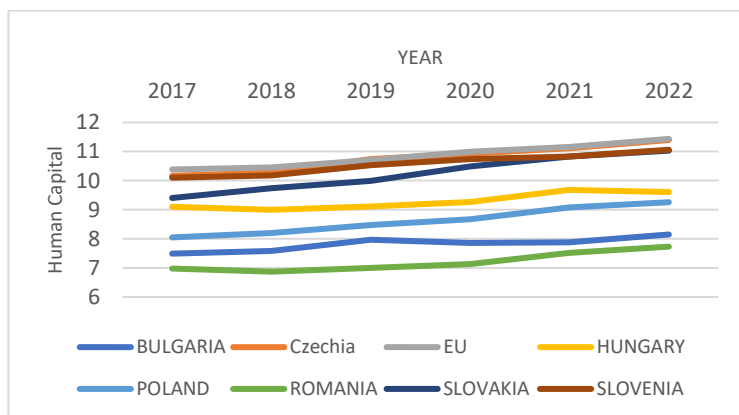


Figure 4. Human capital DESI 2022 (EU’s average and country selection)¹⁶

When we discuss about the Human capital, we may observe in the above figure similar trends for all eastern countries, similar among them and similar with the EU’s trend. Still, some countries are closer to the European average score, namely Slovakia or Czech Republic, and countries that are on the right trend but, far from the average, and we can identify in this category Romania, Bulgaria, and Poland.

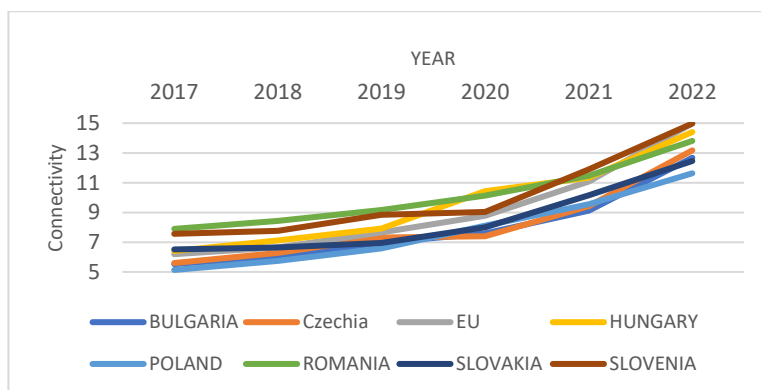


Figure 5. Connectivity DESI 2022, (EU’s average and country selection)¹⁷

¹⁶ made by the authors, data source <https://digital-agenda-data.eu/datasets/desi/indicators>

¹⁷ made by the authors, data source <https://digital-agenda-data.eu/datasets/desi/indicators>

Figure 6 reflects maybe the unique place where most former eastern EU member states reflect scores better positioned compared with the EU's average score. Still, countries like Bulgaria, Poland or Slovakia are showing scores below the average, raising a warning signal, because the connectivity is seen as a major communication infrastructure element all over EU. Figure 7, again, reflects the similarities between the recorded scores concerning the Integration of the Digital Technology, and the Human Capital, in a sense of similar trends with, again, most eastern countries lower positioned against the Europe average index.

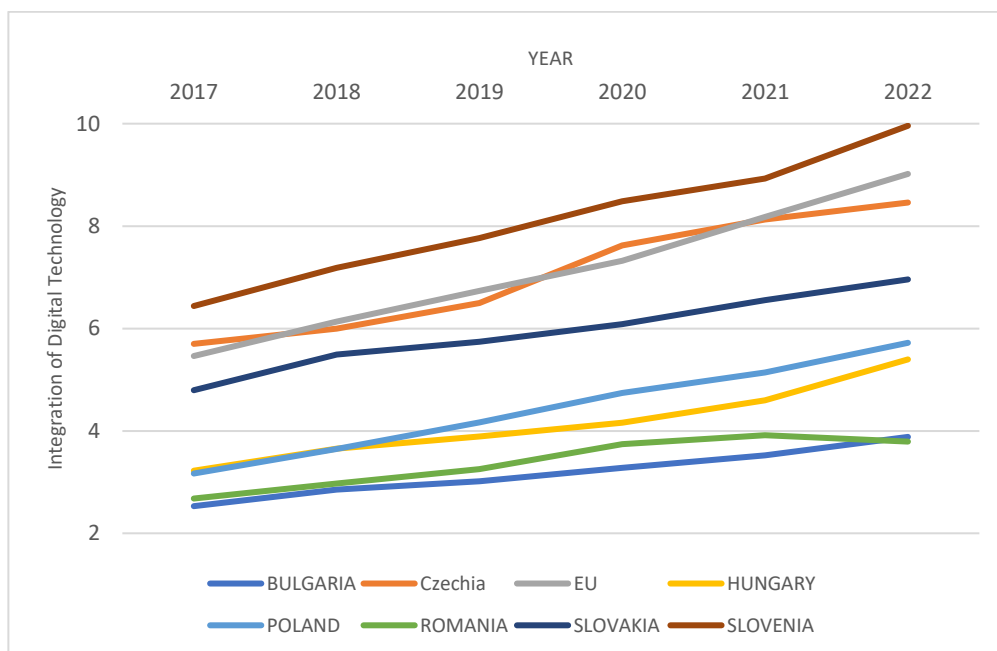


Figure 6. Integration of Digital Technology DESI 2022
(EU's average and country selection)¹⁸

3. Romania's Digital Economy and Society present situation and perspectives

For our country, as seen, the situation is not good. Romania is ranked 27th out of the 27 EU members in 2022. Importantly, it is not converging with the other Member States as evidenced by the fact that its relative yearly growth lags below that of its peers.

With very low levels of fundamental digital skills compared to the average across the EU, our nation is falling behind on several human capital metrics, but it continues to rank highly for the proportion of female ICT specialists in the workforce (ranking second) and ICT

¹⁸ made by the authors, data source <https://digital-agenda-data.eu/datasets/desi/indicators>

graduates (ranking fourth). The area where Romania does best is concerning its connectivity, which is comparable to EU's ranks. The adoption of fixed broadband connections with speeds of at least 100 Mbps (57%) and fixed extremely high-capacity network coverage (87%)¹⁹ quite exceeds the EU average.

The slow rate of development and low degree of digitalization are preventing the Romanian economy from fully utilizing the benefits provided by digital technologies. This issue has a very significant impact due to the relatively low level of digital public services for both residents and businesses.

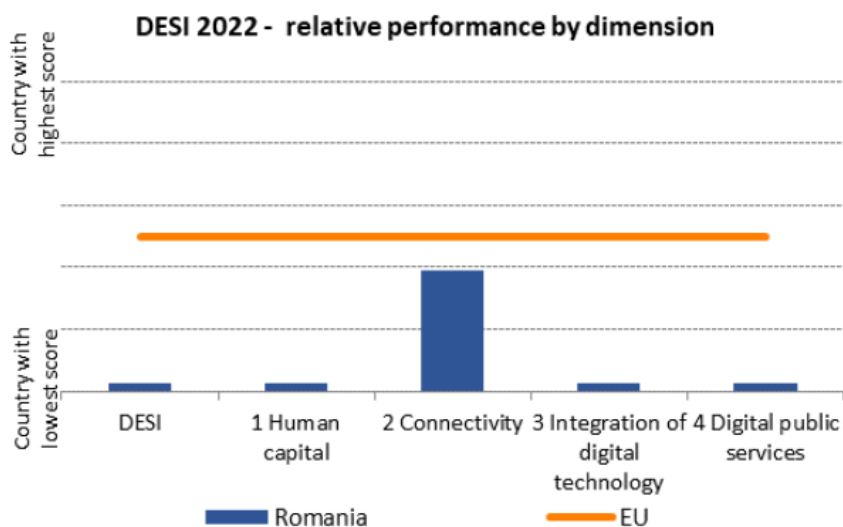


Figure 7. Romania's Digital Economy and Society Index, 2022²⁰

In terms of human force, our nation struggles with a lack of fundamental digital skills. Regarding at least basic digital skills (28% vs. 54%) and above basic digital capabilities (9% vs. 26%), Romania performs significantly worse than the EU average. In Romania, just 41% of individuals have at least basic skills for generating digital content, which is lower than the EU average of 66%. With 2.6% of ICT specialists employed as opposed to the norm of 4.5%, Romania falls again short of the average. In contrast, or to be more precise the only above average indicators for our country reflects on the percentages of female ICT specialists and graduates have increased and are now in the top tier at 26% and 6.7%, respectively. The proportion of businesses offering ICT training is 6%, which is again much lower than the EU average.

¹⁹ <https://ec.europa.eu/newsroom/dae/redirection/document/88717> page 3

²⁰ <https://ec.europa.eu/newsroom/dae/redirection/document/88717> page 4

	Romania			EU
	DESI 2020	DESI 2021	DESI 2022	DESI 2022
1a1 At least basic digital skills	NA	NA	28%	54%
<small>% individuals</small>			2021	2021
1a2 Above basic digital skills	NA	NA	9%	26%
<small>% individuals</small>			2021	2021
1a3 At least basic digital content creation skills³	NA	NA	41%	66%
<small>% individuals</small>			2021	2021
1b1 ICT specialists	2.3%	2.4%	2.6%	4.5%
<small>% individuals in employment aged 15-74</small>	2019	2020	2021	2021
1b2 Female ICT specialists	23.5%	26.2%	26%	19.1%
<small>% ICT specialists</small>	2019	2020	2021	2021
1b3 Enterprises providing ICT training	6%	6%	6%	20%
<small>% enterprises</small>	2019	2020	2020	2020
1b4 ICT graduates	5.8%	6.3%	6.7%	3.9%
<small>% graduates</small>	2018	2019	2020	2020

Table 1. Romania’s Human Force digital readiness based on Digital Economy and Society Index, 2022²¹

Even though broadband costs are low and very high-capacity networks (VHCN) are widely available, Romania's main connectivity problem is to increase its total fixed broadband take-up, which is currently stagnant at 66% and substantially behind the EU average (78%). Romania has lagged in adoption because of its lopsided demographics and poor level of fundamental digital skills. The Next Generation Access²² (NGA) and VHCN industries, however, continue to see significant growth. Fixed broadband penetration increased to 94.1% for all households, barely behind the average of 97.9% for the EU. Additionally, the percentage of households using fast broadband increased by 6 points to 93%, above the EU average of 90%. Still, even if the coverage percentages look quite well, this availability is not adopted and transformed into value added neither by individuals, nor by businesses and administration.

	Romania			EU
	DESI 2020	DESI 2021	DESI 2022	DESI 2022
2a1 Overall fixed broadband take-up	66%	67%	66%	78%
<small>% households</small>	2019	2020	2021	2021
2a2 At least 100 Mbps fixed broadband take-up	49%	51%	57%	41%
<small>% households</small>	2019	2020	2021	2021
2a3 At least 1 Gbps take-up	<0.01%	<0.01%	8.98%	7.58%
<small>% households</small>	2019	2020	2021	2021
2b1 Fast broadband (NGA) coverage	82%	87%	93%	90%
<small>% households</small>	2019	2020	2021	2021
2b2 Fixed Very High Capacity Network (VHCN) coverage	68%	76%	87%	70%
<small>% households</small>	2019	2020	2021	2021
2b3 Fibre to the Premises (FTTP) coverage	68%	76%	87%	50%
<small>% households</small>	2019	2020	2021	2021
2c1 5G spectrum	21%	21%	22%	56%
<small>Assigned spectrum as a % of total harmonised 5G spectrum</small>	04/2020	09/2021	04/2022	04/2022
2c2 5G coverage⁵	NA	12%	25%	66%
<small>% populated areas</small>		2020	2021	2021
2c3 Mobile broadband take-up	65%	65%	82%	87%
<small>% individuals</small>	2018	2018	2021	2021
2d1 Broadband price index	92	97	97	73
<small>Score (0-100)</small>	2019	2020	2021	2021

Table 2. Romania’s connectivity based on Digital Economy and Society Index, 2022²³

²¹ <https://ec.europa.eu/newsroom/dae/redirection/document/88717> page 7

²² <https://www.lawinsider.com/dictionary/next-generation-access-nga-networks>

²³ <https://ec.europa.eu/newsroom/dae/redirection/document/88717> page 9

And we are arriving at the digital integration topic. Romania does poorly in integrating digital technology, coming up again, on the 27th place. Nearly all indicators are way below the average for the EU and have either stayed the same or even declined over the past year. In comparison to the EU average of 55%, 22% of SMEs had at least a basic degree of digital intensity. 34% within the EU compared with only 11% of sophisticated technologies like cloud computing were used by our country. Only 1% of businesses have yet used artificial intelligence technology. Big data usage is still below average in the EU, at 5% vs. the average of 14%. Only 68% percentage of businesses using ICT to take medium-to-heavy environmental action is somewhat higher than the 66% EU average.

	DESI 2020	Romania DESI 2021	DESI 2022	EU DESI 2022
3a1 SMEs with at least a basic level of digital intensity % SMEs	NA	NA	22%	55%
3b1 Electronic information sharing % enterprises	23%	23%	17%	38%
3b2 Social media % enterprises	8%	8%	12%	29%
3b3 Big data % enterprises	11%	5%	5%	14%
3b4 Cloud % enterprises	NA	NA	11%	34%
3b5 AI % enterprises	NA	NA	1%	8%
3b6 ICT for environmental sustainability % enterprises having medium/high intensity of green action through ICT	NA	68%	68%	66%
3b7 e-Invoices % enterprises	20%	17%	17%	32%
3c1 SMEs selling online % SMEs	11%	17%	12%	18%
3c2 e-Commerce turnover % SME turnover	5%	8%	7%	12%
3c3 Selling online cross-border % SMEs	6%	6%	4%	9%

Table 3. Romania’s digital integration based on Digital Economy and Society Index, 2022²⁴

Last, but not last, the DESI report is analyzing Romania’s performance on digital Public Services, maybe out biggest nightmare.

For Romania, delivering digital public services continues to be challenging. The country performs much lower than the EU average across the board, including the availability of digital public services for consumers and businesses (EU average: 75 for consumers and 82 for business; national score: 44 and 42 respectively). In addition, just 17% of internet users use e-government services, indicating a low level of digital contact between public bodies and the general population. As we speak, there isn't an e-ID scheme in place in Romania.

²⁴ <https://ec.europa.eu/newsroom/dae/redirection/document/88717> page 13

For Romanians, the introduction of e-ID cards and digital signatures is crucial to facilitating interactions between the public and private sectors.

	Romania			EU
	DESI 2020	DESI 2021	DESI 2022	DESI 2022
4a1 e-Government users	15%	16%	17%	65%
% internet users	2019	2020	2021	2021
4a2 Pre-filled forms	NA	NA	19	64
Score (0 to 100)			2021	2021
4a3 Digital public services for citizens	NA	NA	44	75
Score (0 to 100)			2021	2021
4a4 Digital public services for businesses	NA	NA	42	82
Score (0 to 100)			2021	2021
4a5 Open data	NA	NA	76%	81%
% maximum score			2021	2021

Table 4. Romania’s digital public services based on Digital Economy and Society Index, 2022²⁵

From the already presented information our country’s lack of digital readiness, in terms of public administration, labor force or public services reflects not only a serious gap against the EU’s average, but an almost strategic vulnerability with incalculable costs for its development and democracy. Today’s situation reflects with no doubt a lack of political commitment shown, not only by the present administration but also a sum of similar behaviors coming from the past administrations.

5. Conclusions

The Recovery and resilience plan for Romania have, among other objectives, a successful transition towards the so-called digital economy and digital society. This includes better connectivity, especially in rural areas, better digital skills, digitalization of education, economic processes, public administration, and public services.

With planned investments and reforms in crucial areas, Romania's recovery and resilience plan supports the digital transition. €1.5 billion will be invested in digitalizing public administration. Additionally, €470 million will be invested in an integrated e-health system. Additionally, investments for the digitalization of education (€881 million) are aimed to enhance digital pedagogical abilities, but also the infrastructure, notably in universities.

In theory it looks fantastic, but based on recent facts and statements, it’s probably likely that Romania will send proposals to the European Commission to amend the content of its own National Recovery and Resilience Plan. In this context, the expected new renegotiated context might not reflect the previous expected investments, therefore this digital transformation and transition can be delayed in the short and middle term.

²⁵ <https://ec.europa.eu/newsroom/dae/redirection/document/88717> page 15

References

- [3] https://commission.europa.eu/funding-tenders/find-funding/eu-funding-programmes/digital-europe-programme_en 15.05.2023
- [4] https://eic.ec.europa.eu/index_en 15.05.2023
- [5] <https://education.ec.europa.eu/focus-topics/digital-education/action-plan> 15.05.2023
- [6] <https://gdprinfo.eu/> 15.05.2023
- [7] <https://digital-strategy.ec.europa.eu/en/policies/cybersecurity-act> 15.05.2023
- [8] <https://www.enisa.europa.eu/topics/cybersecurity-policy/nis-directive-new> 15.05.2023
- [9] <https://ec.europa.eu/newsroom/dae/redirection/document/88764> 15.05.2023
- [10] <https://digital-strategy.ec.europa.eu/en/policies/code-practice-disinformation> 15.05.2023
- [11] <https://digital-strategy.ec.europa.eu/en/policies/digital-services-act-package> 15.05.2023
- [12] https://ec.europa.eu/newsroom/dae/document.cfm?doc_id=70034 15.05.2023
- [15] <https://ec.europa.eu/newsroom/dae/redirection/document/88717> 15.05.2023
- [19] <https://ec.europa.eu/newsroom/dae/redirection/document/88717> 15.05.2023

Bibliography

- https://commission.europa.eu/funding-tenders/find-funding/eu-funding-programmes/digital-europe-programme_en 15.05.2023
- https://eic.ec.europa.eu/index_en 15.05.2023
- <https://education.ec.europa.eu/focus-topics/digital-education/action-plan> 15.05.2023
- <https://gdprinfo.eu/> 15.05.2023
- <https://digital-strategy.ec.europa.eu/en/policies/cybersecurity-act> 15.05.2023
- <https://www.enisa.europa.eu/topics/cybersecurity-policy/nis-directive-new> 15.05.2023
- <https://ec.europa.eu/newsroom/dae/redirection/document/88764> 15.05.2023
- <https://digital-strategy.ec.europa.eu/en/policies/code-practice-disinformation> 15.05.2023
- <https://digital-strategy.ec.europa.eu/en/policies/digital-services-act-package> 15.05.2023

https://ec.europa.eu/newsroom/dae/document.cfm?doc_id=70034 15.05.2023

<https://ec.europa.eu/newsroom/dae/redirection/document/88717> 15.05.2023

<https://ec.europa.eu/newsroom/dae/redirection/document/88717> 15.05.2023

https://digital-agenda-data.eu/datasets/digital_agenda_scoreboard_key_indicators/indicators 15.05.2023

<https://mfe.gov.ro/pnrr/> 15.05.2023

https://commission.europa.eu/business-economy-euro/economic-recovery/recovery-and-resilience-facility_en 15.05.2023

https://commission.europa.eu/document/download/e0261de6-b15f-4cfa-889b-548a1e23d0a8_en?filename=2022-european-semester-csr-romania_en.pdf 15.05.2023

<https://www.hotnews.ro/stiri-esential-26231042-pierde-romania-doua-transa-bani-din-pnrr-marcel-bolos-despre-cel-mai-rau-scenariu.htm> 15.05.2023