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PART 23/27

COMMISSION STAFF WORKING DOCUMENT

Digital Decade 2025 country reports

Accompanying the document

Communication from the Commission to the European Parliament, the Council and the European Economic and Social Committee and the Committee of the Regions

State of the Digital Decade 2025: Keep building the EU's sovereignty and digital future

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European Commission

DIGITAL DECADE 2025
COUNTRY REPORTS

Romania

Romania

Contents

Executive summary

Romania can rely on a well-developed fixed connectivity infrastructure and is strengthening its role in critical technologies like semiconductors, but persistent R&D gaps, weak SME and start-up innovation and slow emerging tech uptake limit its competitiveness. While the country is advancing in digital public services, challenges remain in digital skills, inclusion, and integrating sustainability into its digital infrastructure. Romania shows a low level of ambition in its contribution to the Digital Decade having set 11 national targets, 36% of which are aligned with the EU 2030 targets. The country is fully following its trajectories (on the basis of the 2024 trajectories defined for 1 KPI out of 8 analysed). Romania addressed 40% of the 15 recommendations issued by the Commission in 2024 by making some changes through new measures.

Romania remains an EU leader when it comes to fixed connectivity, but more efforts are needed on 5G. Despite recent efforts, Romanians have very low levels of digital skills. Efforts have been made to strengthen Romania's position regarding semiconductor manufacturing. The country is also taking major steps to improve the digitalisation of public services, including a new Governmental cloud and the notification of an eID scheme. Romania struggles with integrating digital technology into business activities. AI and data analytics are not used to their full potential. Lack of access to capital both for start-ups and scale-ups remains an important issue hampering digital innovation.

Digital Decade KPI (1)	Romania				EU		Digital Decade target by 2030	
	DESI 2024 (year 2023)	DESI 2025 (year 2024)	Annual progress	National trajectory 2024 (3)	DESI 2025	Annual progress	RO	EU
Fixed Very High Capacity Network (VHCN) coverage	95.0%	95.9%	0.9%	-	82.5%	4.9%	99.0%	100%
Fibre to the Premises (FTTP) coverage	95.0%	95.7%	0.8%	-	69.2%	8.4%	99.0%	-
Overall 5G coverage	32.8%	46.8%	42.7%	33.0%	94.3%	5.9%	62.0%	100%
Edge Nodes (estimate)	5	11	120.0%	-	2257	90.5%	-	10000
SMEs with at least a basic level of digital intensity (2)	-	69.1%	14.7%	-	72.9%	2.8%	75.0%	90%
Cloud	15.5%	-	-	-	-	-	40.0%	75%
Artificial Intelligence	1.5%	3.1%	103.3%	-	13.5%	67.2%	10.0%	75%
Data analytics	21.9%	-	-	-	-	-	15.0%	75%
AI or Cloud or Data analytics	28.7%	-	-	-	-	-	-	75%
Unicorns	0	0		-	286	4.4%	-	500
At least basic digital skills	27.7%	-	-	-	-	-	50.0%	80%
ICT specialists	2.6%	2.8%	7.7%	-	5.0%	4.2%	4.0%	~10%
eID scheme notification		Yes						
Digital public services for citizens	52.2	62.7	20.2%	-	82.3	3.6%	100.0	100
Digital public services for businesses	50.0	55.1	10.2%	-	86.2	0.9%	100.0	100
Access to e-Health records	58.6	75.1	28.2%	-	82.7	4.5%	-	100

(1) See the methodological note for the description of the indicators and other metrics
(2) DESI 2025 reports the version 4 of the Digital Intensity Index, which is comparable with the DII value from DESI 2023 (referring to year 2022) for the calculation of the annual progress. It is not comparable to the national trajectory, which is based on version 3 of the index.
(3) National trajectory value if present in the national roadmap and if the indicator was measured in DESI2025 (year 2024).

According to the 2025 special Eurobarometer on 'the Digital Decade', 62% of Romanians consider that the digitalisation of daily public and private services is making their lives easier. 77% consider the action of the public authorities important to counter and mitigate the issue of fake news and disinformation online. 77% consider competitiveness important to ensure that European companies can grow and become 'European Champions' capable of competing globally.

A competitive, sovereign, and resilient EU based on technological leadership

Romania remains an EU leader in connectivity, including in sparsely populated areas, has the highest take-up of high-speed Internet in the EU for >100 Mbps and ranks 3rd in the EU for >1 Gbps connections. However, despite strong year-on-year growth, Romania continues to underperform on 5G, both in terms of coverage and spectrum assignment. Significant growth potential exists here and a lot more could be done to promote the benefits of 5G connectivity, particularly how it could support the country's manufacturing and B2B sectors.

Romania is slowly strengthening its position in critical technologies. Recently, it has adopted its national quantum technology strategy and announced an initiative that will lead to an investment of EUR 420 million (NRRP) for auto industry semiconductor R&D and manufacturing. The approach, which involves European companies, universities and SMEs, has the potential to build a strong semiconductor ecosystem in the medium and long term.

Romania does not have unicorn companies in ICT and digital. Its start-up ecosystem would benefit from better conditions for access to capital, in particular risk, in order to develop further. Regarding cybersecurity, Romanians take fewer steps than the EU average to protect their data online. Romania has transposed the NIS2 Directive in its national legislation via an Emergency Ordinance.

Protecting and empowering EU people and society

Romania is investing significantly in digitalising its public services and raising the overall level of digital skills. This is a long-term process that needs strong political will, a clear agenda and renewed commitment in terms of efforts and resources in order to achieve success.

Romania continues to rank last in basic digital skills, but it is taking significant steps to address this, with a higher budget for education and schemes in place to train teachers and optimise the education process. It is important that the concept of acquiring the necessary digital skills is integrated throughout the curricula and represents a key KPIs for investments throughout the entire learning cycle.

Regarding ICT specialists, Romania has a high number of graduates but is not able to retain this talent in the country. The number of ICT specialists appears to be stagnating, which could put the country's 2030 target at risk.

Romania demonstrates a consistent pattern of robust growth for the digitalisation of public services, but the absolute scores for Romania remain below the EU average. Major projects are currently being announced or implemented and should transform how public services are delivered but will require the appropriate degree of development and maintenance over time. The public entities running these projects should be given the necessary resources (finance, project management, ICT specialists) to continue them after the original contract is finalised. Streamlining of the multiple existing projects that have been promoted as 'single point of contact' could also be envisaged.

For eHealth, Romania has gradually improved its performance, but not all data types are available and less than 50% of the healthcare providers are connected and supplying data. A new strategy for the digitalisation of the health system is being prepared. A new health insurance platform, which should replace the current one, is expected for 2026.

Leveraging digital transformation for a smart greening

Regarding progress in its twin transition, Romania is slowly advancing on an integrated approach to making digital infrastructure greener and tracking emission reductions.

National Digital Decade strategic roadmap

Romania has not submitted an update to its national Digital Decade roadmap. Taking into account Romania's starting point, the roadmap puts forward ambitious objectives, particularly for the use of digital services and the number of ICT specialists.

Overall, the roadmap is a key document in ensuring ownership and oversight of the necessary steps to meet the national targets. It was formally adopted by the Romanian Government in October 2024.

The roadmap consists of 98 measures with a budget of EUR 3.6 billion (equivalent to 1.01% of GDP) of which a substantial share stems from the National Recovery and Reform Plan. The main focus is on the digitalisation of public services and increasing digital skills. A lower priority seems to be given to the digitalisation of businesses and advanced technologies (semiconductors, quantum, edge nodes). Similarly to 2023, Romania has not indicated targets for eHealth, quantum, edge nodes and semiconductors. None of the existing targets were revised.

Funding & projects for digital

Romania allocates 22% of its total recovery and resilience plan to digital (EUR 5.8 billion)[1]. In addition, under cohesion policy, EUR 2.7 billion, representing 9% of the country's total cohesion policy funding, is dedicated to advancing Romania's digital transformation[2]. Romania is a member of the EUROPEUM EDIC. Romania is directly participating in the IPCEI on Microelectronics and Communication Technologies (IPCEI-ME/CT). Romania is also a participating state in the EuroHPC Joint Undertaking (JU) and in the Chips JU.

Romania has contributed to the Best Practice Accelerator[3] by sharing one best practice in the frame of the Digital Skills cluster (Skills in Advanced Technologies for SMEs).

Digital Rights and Principles

According to a support study, Romania has been relatively active in implementing the **European Declaration on Digital Rights and Principles**, with 62 initiatives overall and 2 new initiatives launched in 2024. Romania is most active in the area of putting people at the centre of the digital

[1] The share of financial allocations that contribute to digital objectives has been calculated using Annex VII to the Recovery and Resilience Facility Regulation. Last data update: 16 May 2025.

[2] This amount includes all investment specifically aimed at or substantially contributing to digital transformation in the 2021-2027 Cohesion policy programming period. The source funds are the European Regional Development Fund, the Cohesion Fund, the European Social Fund Plus, and the Just Transition Fund.

[3] The Best Practice Accelerator (BPA) is a platform that enables Member States to share successful measures and challenges encountered in their efforts to meet their Digital Decade targets and objectives. Best practices are made available to Member States via the BPA Repository and showcased in regular workshops, currently focused on three thematic clusters: Digital Skills, Green IT, and the Uptake of Digital Technologies.

transformation. Less activity has been identified with regards to a fair digital environment and sustainability. Measures in the area of putting people at the centre of the digital transformation appear to have most impact on the ground, in contrast to those addressing freedom of choice.

Recommendations

- **Digital public services**: Continue to dedicate the necessary resources (finance, project management, ICT specialists) for the digitalisation of public services, including after the initial set-up (maintenance and support). Streamlining of the multiple existing projects that have been promoted as 'single point of contact' could also be envisaged.
- **Basic digital skills**: Continue to integrate basic digital skills as a core component of the education process, both for teachers and students. Make upskilling, particularly of employees in the private sector and older population, a priority.
- **eHealth**: Continue to expand the data sources available online. Adopt and implement the new strategy on the digitalisation of health system, taking into account user needs and ease of use.
- **ICT specialists and advanced skills**: boost SME digital skills by simplifying support measures and engaging stakeholders to identify market needs. Identify ways to attract and retain ICT talent.
- **Unicorns**: Building on existing programmes, Romania should identify ways to support company scale-up and diversify funding opportunities for innovative companies.
- **Advance technologies take-up** Continue efforts, including via EDIHs, to increase the uptake of cloud and AI services by companies of all sizes. Continue to increase the number of edge nodes deployed and ensure links with work done on semiconductors, quantum and the internet of things.
- **5G**: increase overall 5G coverage, including in the 3.4–3.8 GHz band, and spectrum assignment.
- **Twin digital-green transition**: Develop a comprehensive strategy to align digitalisation with environmental goals.

A competitive, sovereign and resilient EU based on technological leadership

Romania has struggled to maintain its competitiveness, although it is currently implementing reforms and initiatives aimed at strengthening its economic and digital infrastructure. Over the past three years, Romania has registered constant, albeit slowing, GDP growth, with around 0.8% real GDP growth in 2024 compared to 2023. This growth trajectory reflects both the challenges and opportunities faced by the country, particularly as it seeks to leverage EU funds for ambitious reform plans. However, delays in project implementation across multiple sectors remain a significant hurdle.

In terms of digital competitiveness, Romania offers a landscape of contrasts. The country boasts some of the fastest internet connectivity in the world and a strong pipeline of ICT specialists trained at its universities. Despite these strengths, Romania struggles with low digital skills among the general population, a low, albeit growing level of available digital public services and faces difficulties in retaining ICT talent within its borders. In 2022, the ICT sector contributed 4.44% to the gross value added[4], mirroring the figures from 2021 but below the EU average of 5.46%. Nonetheless, Romania is making strides to bridge this gap. ICT personnel make up 3.26% of total employment, which is close to the EU average.

In 2022, R&D spending on ICT constituted 23.86% of total R&D business expenditures, one of the lowest in the EU. Moreover, the proportion of R&D personnel in the ICT sector was 23.4% of the total R&D workforce, down 5.6 percentage points compared to the previous year. These figures highlight the need for enhanced R&D investment and personnel retention strategies.

Efforts to digitalize Romania's public sector are ongoing, with initiatives such as transitioning public activity to the cloud, ensuring interoperability between the databases of different authorities, implementing the national eID scheme, and setting up a new single point of contact at the forefront. Successful projects like ghiseul.ro demonstrate the potential for digital transformation, as well as the appetite of Romanians to use digital technology to simplify their interaction with public administration. At the same time, some of the systems built previously have not been updated and maintained properly, for example for health insurance, and now require complete overhauls. Ensuring the success of this digitalisation effort requires effective coordination between institutions, backed by sufficient political commitment and resources allocated.

The start-up ecosystem is hampered by issues that affect entrepreneurship in Romania more broadly. Access to capital remains a major issue. Start-up funds are available, but scaling up remains very difficult and, as a consequence, no unicorn-level companies exist. At the same time, Romanian businesses are slow to take up cloud, AI and data analytics in their activities.

With the help of EU funding, Romania has taken steps to revitalise its semiconductors industry and is trying to become a key supplier of semiconductors for the country's car manufacturing production. However, overall R&D spending was only 0.52% of GDP in 2023, with stakeholders pointing to limited strategic vision and fragmentation of efforts as factors that further weaken efficiency of funding.

[4] Most of the indicators mentioned in the country report are explained in the DESI 2025 Methodological Note accompanying the State of the Digital Decade report 2025

According to the 2025 Eurobarometer[5], 78% of Romanians think that building efficient and secure digital infrastructures and data processing facilities should be a priority for the public authorities.

Building technological leadership: digital infrastructure and technologies

Romania continues to have one of the highest levels of connectivity infrastructure in the EU for both very high-capacity networks (VHCN) and fibre to the premises (FTTP). It leads the EU in high-speed internet. The country, however, is slow in taking up 5G technology, which could hamper the future competitiveness of the country's strong manufacturing sector. Romania is taking steps to strengthen its semiconductor capacity and quantum communication capabilities.

Connectivity infrastructure

Romania's VHCN coverage is 95.9% (2030 national target: 99%), an increase of +0.9% in 2024 and a figure significantly higher than the EU average of 82.5%. The country did not provide a national trajectory point for 2024. The growth rate for 2024 is lower than the EU's, 0.9% compared to 4.9%, but that is to be expected given the very high starting point. For households in sparsely populated areas, Romania's coverage is also notably higher, at 93.6% in 2024, against the EU's 61.9%. The growth rate of 1.3% is lower than the EU's 11.3%. The country also has the highest take up of high-speed internet in the EU: 96.85% of internet connections are at speeds of 100Mbps or above, with 34.17% of broadband subscriptions being over 1 Gbps.

Romania FTTP coverage is 95.7% of (2030 national target: 99%), an increase of +0.8% in 2024 and far above the EU average of 69.24%. The country did not provide a national trajectory point for 2024. Similarly to the VHCN indicator, Romania's year-on-year growth rate was lower than the EU's (8.4%), again explained by the high starting point. For households in sparsely populated areas, Romania's coverage is also notably higher, at 93.5% in 2024, against the EU's 58.9%.

Romania 5G coverage is 46.8% (2030 national target: 62%), an increase of +42.7% in 2024, well below the EU average of 94.35%. The country is on track with its national trajectory. For households in sparsely populated areas, Romania's coverage is also notably lower, at 14.5% in 2024, against the EU's 79.57%. The growth rate of 128.4% is significantly higher than the EU's 11.9%. Romania's 5G coverage in the 3.4–3.8 GHz band is lower than the EU average, with 32.8% in 2024, compared to the EU's 67.7%. Romania's 5G spectrum assignment for pioneer bands is lower than the EU average, with 38.33% in 2025, compared to the EU's 74.6%.

Romania's performance in broadband take-up indicators is mixed compared to the EU average. In 2023, Romania's share of fixed broadband subscriptions at 100 Mbps or higher was 94.04%, above the EU's figure of 65.9%. This figure increased to 96.85% in 2024, still significantly above the EU's 71.88%. The growth rate for this indicator in Romania was 3.0%, which is lower than the EU's 9.1%. Romania's share of fixed broadband subscriptions at 1 Gbps or higher was 30.45% in 2023, exceeding the EU's 18.47%. In 2024, this figure rose to 34.17%, well above the EU's figure of 22.25%. The growth rate for this indicator in Romania was 12.2%, which is lower than the EU's 20.5%. Romania's share of the population with 5G SIM cards was 7.91% in 2023, below the EU average of 21.7%. This figure increased to 15.0% in 2024, still well below the EU's 35.56%. The growth rate for this indicator in Romania was 89.6%, which is higher than the EU's 63.9%.

[5] Special Eurobarometer 566 on 'the Digital Decade' 2025: https://digital-strategy.ec.europa.eu/en/news-redirect/883227

VHCN and FTTP

Even though the growth rate is slow, progress for both VHCN and FTTP coverage is sufficient to indicate that the 99% coverage target will be met by 2030 provided that the current growth rate remains stable.

To further facilitate network deployment, **Romania has adopted the indicative tariffs for access to road physical infrastructures** via Decision No. 58/2025. The indicative (nonbinding) tariffs set by the Romanian telecom regulator ANCOM are more than 90% lower than the actual tariffs set in the Order of the Ministry of Transport No. 1836/2018. While it is too early to observe positive effects attributable to this decision, it is expected to contribute to further network deployment. ANCOM has also gathered geolocated data to obtain a clearer view of the level of development of high-speed networks and services across the country's various regions and communities, with a study and a map made public.

5G

Overall, analysis suggests that Romania is generally performing well on digital infrastructure, with one of the highest levels of high-speed Internet connectivity in the EU. However, there are some areas, such as overall 5G coverage, 5G coverage in the 3.4-3.8 GHz band and 5G SIM card adoption, where Romania has significant potential to improve its performance to further enhance its digital infrastructure and support its manufacturing and B2B sectors.

In 2025, the Romanian National Authority for Management and Regulation in Communications intends to consult the market again on the potential interest in the 26 GHz band, and in other millimetric bands (such as the 40.5 - 43.5 GHz frequency band). No specific requests or enquiries involving these bands have been received by Romanian authorities to date, which indicates a low level of interest for industrial use cases.

Additionally, to further gauge market needs, ANCOM intends to carry out measurements along main railway lines and will perform measurements on the data transfer rate across Romania (5 sampling counties from each relevant region), with a specific focus on less populated areas.

A list of authorised equipment manufacturers under the 5G Networks Security Law (Law 163/2021) was adopted and published during 2023. According to a draft law submitted to the Romanian Parliament by the Government amending Law 163/2021, the software programmes, technologies and equipment from non-authorised producers for core networks can be used until 30 June 2028 at the latest.

2024 recommendation on connectivity infrastructure: (i) Undertake additional efforts to support a higher level of ambition for the 5G target, including possible support for use cases and pilots, in view of the importance for the EU and Romania's future competitiveness and building on the current positive trend; (ii) Ensure sufficient access of new players to spectrum for innovative business-to-business (B2B) and business-to-consumer (B2C) applications and encourage operators to speed up the deployment of 5G stand-alone core networks.
Romania made some efforts to address the recommendation through new policy actions in 2024. There is limited demand for 5G currently in the country. The national regulator plans to further gage market interest for the 26GHz band and map 5G connectivity needs on the country's main railway lines.

Semiconductors

Romania does not currently have any semiconductor production capacity, a situation acknowledged in its roadmap. The Romanian Government has been taking steps to remedy the situation. In 2023 three companies had already been selected to benefit from RRP funding and in 2024 a contract was signed with the companies to build a national ecosystem of semiconductors. The total National Recovery and Resilience Plan (NRRP) funding is EUR 400 million, from which the three companies are receiving EUR 195 million, while indirect participants will receive EUR 205 million. This project, combined with the recently announced BMW TechWorks Centre in Romania has the potential to make Romania an important ICT ecosystem for the European car industry.

Furthermore, a National Platform of Technologies and Semiconductors was launched in December 2024 and is expected to revitalise the national semiconductor industry. A partnership of 6 Romanian research organisations and 21 SMEs, the project benefits from EUR 130 million funding, EUR 65 million of which from the ERDF. The project aims to create three production lines for manufacturing and testing semiconductors, as well as new tech services and semiconductor systems that could be integrated by existing industry.

Edge nodes

According to the Edge Node Observatory, Romania is among the Member States adopting edge technology at a slower pace: it counted 11 of the estimated 2257 edge nodes deployed in the EU at the end of 2024, or 6 additional units compared to the end of the previous reporting period. According to the roadmap, the number of edge nodes is expected to reach 113 by 2030. However, very limited measures are in place to support this objective, so the target does not seem to have adequate support.

The Romanian authorities plan to set up a working group with various ministries, regional development agencies, and the national regulatory authority to assess the current situation and identify and adopt a policy and concrete measures that could support this national target. Nevertheless, recent institutional developments have made this difficult.

Quantum technologies

Romania's interest in quantum technology continues to grow, both in terms of quantum computing and quantum communication infrastructure. The roadmap does not set a specific target for quantum but describes the ongoing work to develop a policy in this area.

The Romanian Government adopted its quantum technology strategy in August 2024. The Strategy includes key objectives such as ensuring the necessary resources, stimulate R&D, create an essential quantum infrastructure, develop a quantum industry in Romania and consolidate Romania's position in the broader international quantum architecture.

The *Politehnica* University of Bucharest launched the RoNaQCI (Romanian National Quantum Communication Infrastructure) project in 2023. With EUR 10 million of funding under the Digital Europe Programme, the project aims to develop a quantum communication infrastructure in Romania by deploying a 1500+km QCI network that would include 6 Romanian metropolitan networks. Implementation of the project is ongoing.

2024 recommendation on quantum/semiconductors/edge nodes: Develop a policy and further measures to support the semiconductors, quantum, and edge nodes targets, building on the growing

national interest and existing assets, as well as multi-country cooperation. Consider edge node deployment when creating investment programmes and strategies in these areas of AI, future network deployment, and the Internet of Things, as edge computing is an important component of those.

Romania made efforts to address the recommendation through new policy actions in 2024. It plans to build a national ecosystem of semiconductors, in a partnership between large manufacturers, SMEs and universities. Interest in quantum is growing, with the RoNaQCI project an important driver to raise awareness of the potential of quantum communications. Low demand and limited public authority involvement impacts the development of edge nodes in the country.

Supporting EU-wide digital ecosystems and scaling up innovative enterprises

Romanian SMEs have closed the gap with the EU average in terms of basic level of digital intensity. This could positively impact the country's competitiveness in the medium and long term. However, Romanian companies are still reluctant to integrate new technologies, such as AI, cloud and data analytics in their activities. The start-up ecosystem is hampered by issues that affect entrepreneurship in Romania more broadly, with access to finance and risk capital remaining major issues to be tackled, particularly for scaling up.

SMEs with at least basic digital intensity

In Romania, 69.1% of SMEs reached at least a basic level of digital intensity (2030 national target 75%), with growth of +14.7% per year, from 52.49% in 2022. This brought Romania closer to the EU average of 72.91%. However, looking at SMEs with high or very high digital intensity, only 21.69% achieved that level, falling short of the EU average of 32.66%. Overall, Romania has shown progress, but there is still room for improvement in the digital intensity of its SMEs, particularly in terms of advanced digital intensity.

The Romanian Authority for Digitalisation is running a training scheme for nine emerging and advanced technologies targeting interested Romanian SMEs. The total financing available is EUR 36 million (NRRP funds), with an additional EUR 6.8 million as ineligible VAT. The training is available via a *de minimis* aid funding of a maximum EUR 17.000 per eligible SME. At the end of 2024, 15% of the SMEs that registered for the scheme had been approved and the evaluation process is ongoing. Some SMEs may be reluctant to fully engage with the current application process, possibly due to perceptions that the resources required for participating may not match the benefits gained. Streamlining the procedure further (the Government clearly indicates the documentation needed and steps required) and promoting the benefits and high quality of the training could potentially encourage greater participation and maximize the scheme's impact. One way forward could be an enhanced cooperation between public authorities and European Digital Innovation Hubs (EDIHs), as key players at regional and local level that have a very good understanding of SME needs and capacities.

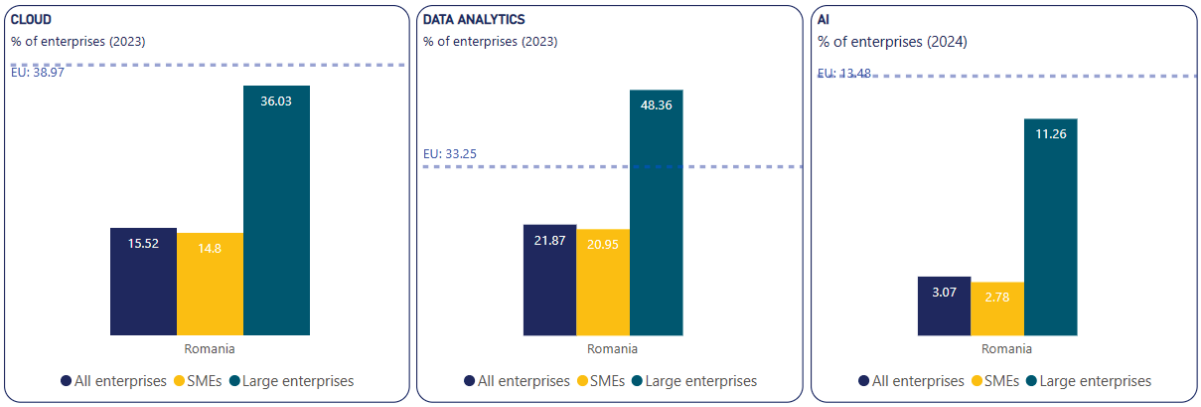
Overall, SMEs in Romania seem eager to adopt digital solutions and technology in their activities, but they often face constraints such as access to finance or procedures they deem too bureaucratic. Room for improvement persists in terms of advanced digital engagement.

2024 recommendation on digitalisation of SMEs: Intensify action on digitalisation of business, starting with providing a comprehensive overview of the available support measures and identifying potential gaps in terms of meeting existing needs, as well as with ensuring the good functioning of the EDIHs.

Romania made some efforts to address the recommendation through new policy actions in 2024. The training scheme for nine emerging and advanced technologies is promising, but some SMEs

continue to flag cumbersome procedures. A stronger cooperation with EDIHs could improve the situation further, as well as linking support measures to improved access to finance.

Take up of cloud/AI/data analytics



In 2024, only 3.1% of enterprises in Romania were using AI technology, after growth of 103.3%, significantly below the EU average of 13.48%. The country did not provide a national trajectory point for 2024. However, large enterprises demonstrated a relatively higher rate of AI use (11.26%) compared to SMEs (2.78%). This corresponds to a gap of 8.48 percentage points between SMEs and large enterprises, which is much lower than the average EU gap of 28.53 percentage points. While the national target set in the roadmap of 10% is very low compared to the EU level target of 75%, it could prove difficult to reach at the current pace.

Adoption of cloud, data analytics, and the three technologies together were not measured in 2024.

In 2023, only 15.52% of Romanian firms adopted cloud technologies, significantly below the EU average of 38.97%. More specifically, SMEs had a lower adoption rate of 14.8%, while 36.03% of large enterprises utilised cloud services. This resulted in a 21.23 percentage point difference in uptake between SMEs and large enterprises in Romania, which was lower than the EU level gap of 31.68. Nevertheless, cloud adoption by large enterprises in Romania ranked last in the EU 2023.

The 2023 data indicates that 21.87% of Romanian enterprises adopted data analytics technologies, below the EU average of 33.25%. Of these, uptake reached 20.95% among SMEs (approximately 1 in 5), while the uptake among large enterprises was significantly higher at 48.36% (but still the lowest in the EU). This reflects a gap of 27.41 percentage points between SMEs and large enterprises, which is lower than the EU gap of 39.72 percentage points.

When taking the three technologies together in 2023, 28.74% of enterprises in Romania engaged with either AI, cloud, or data analytics technologies (no 2030 target was presented), a figure which is significantly lower than the EU average of 54.7%. More specifically, uptake among SMEs was slightly lower at 27.63%, while large enterprises demonstrated a notably higher rate of 60.42%. This indicates a percentage point difference of 32.79 in uptake between SMEs and large enterprises in Romania, which is in line with the EU level gap.

AI

The Romanian Government adopted the National Artificial Intelligence Strategy in July 2024. The Strategy should support the Romanian Government with standardising, operationalising and regulating AI development in Romania and manage the risks that the technology can bring.

In September 2024, Romania announced the launch of the Romanian AI Hub (HRIA). The five-year, EUR 65.25 million project, coordinated by the National University for Science and Technology (*Politehnica*) Bucharest, along with six other universities and eight private companies, will develop advanced research infrastructures, will attract researchers and will train AI specialists and facilitate technological transfer from research to market.

Cloud

No new development relevant to the 2025 Digital Decade report.

Data analytics

No new development relevant to the 2025 Digital Decade report.

2024 recommendation on cloud: Stimulate the adoption of next generation cloud infrastructure and services by companies of all sizes, including by liaising with the Cloud IPCEI Exploitation office and/or the Member States participating in the IPCEI-CIS;
Romania did not make progress in addressing the recommendation in 2024.

Unicorns, scale-ups and start-ups

Romania is among the 6 EU Member States without a unicorn type company in the digital sector. However, in recent years, Romania has seen the emergence of several successful start-ups in areas such as robotics and process automation, cybersecurity, fintech and e-commerce.

The country has significant potential in the ICT field, with the start-up ecosystem in Bucharest valued at EUR 35 billion in 2023, making it one of the top 10 emerging cities for entrepreneurship value creation, according to a Startup Genome report. More generally, the Romanian ICT sector is one of the most important sectors in the economy in terms of employment, accounting for 7.1% of GDP in 2023. According to the Romanian roadmap, the ICT sector is increasingly specialised in areas such as cybersecurity and process automation, and more and more considered as an engine of business growth in Romania.

The other key factor that could negatively impact the Romanian ICT industry in the medium term is the elimination of fiscal incentives for the sector. This measure has direct implications on the ICT employee salaries and the profitability of ICT companies in Romania. Based on data from the ANIS 2024 Report on the impact of the ICT Industry on Romania's economy indicates a potential negative impact of over 26% on company profitability for 2024 and 2025.

Among key barriers to innovation, stakeholders mentioned a lack of fiscal incentives for R&D activities, a lack of innovation centres and incubators in the country and lack of knowledge and support for registering intellectual property. Key support measures here could include dedicated public/EU funding, increased industry/academia cooperation and stronger involvement of public authorities, including at local level, to stimulate innovation.

Most of the ICT activity in Romania is outsourcing for international companies, which can put the sector at risk both in the short term, based on how international demand fluctuates, and the long-term, if salaries increase and low labour cost is no longer a key competitive advantage.

Yet the sector still has significant untapped potential in terms of R&D intensity, which remains lower than EU averages. While the Start-up Nation programme (EUR 446 000 000 via the European Social Fund) aims to stimulate digital entrepreneurship, access to capital, and in particular to risk capital, also

remains difficult and below the EU average. Romanian companies still predominantly rely on internal financing to support their investments and operations (73% of total investment finance), with external financing representing only 26%. This heavy reliance on internal funds raises major challenges for companies, especially SMEs which account for over 99% of the companies in the country. Most external financing comes from bank loans, with companies reluctant to explore non-traditional financing options. In addition to recent measures promoted by the state for a more dynamic investment environment, greater participation from institutional investors as well as improving the promotion of available financing schemes and increasing financial literacy overall could also help bridge the financing gap.

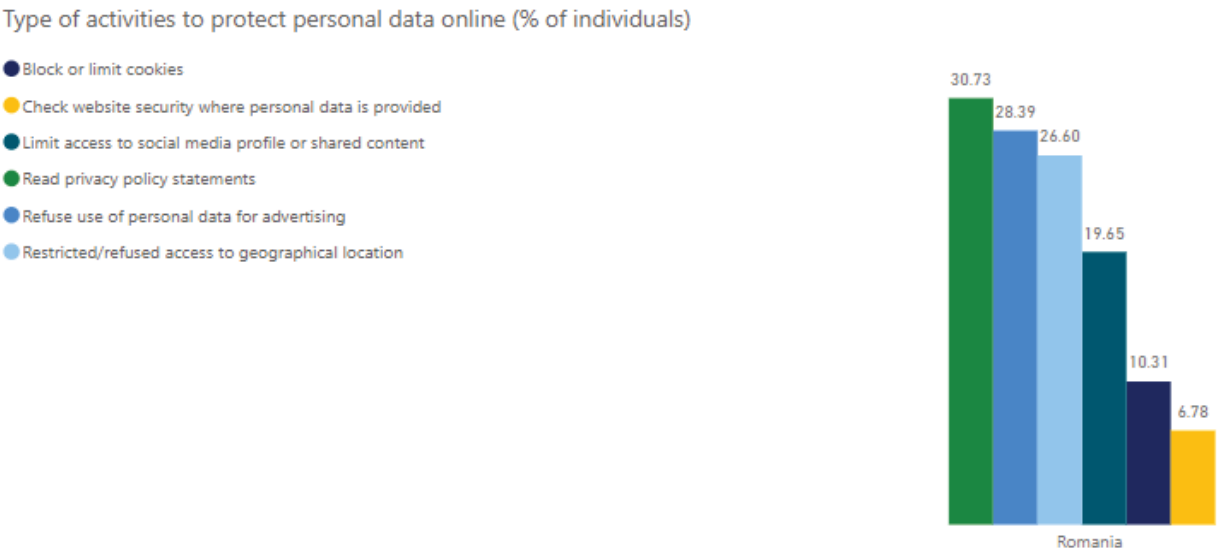
The 2030 targets set in the Romanian roadmap in relation to unicorns, scale-ups and start-ups include 5 000 innovative digital SMEs, a 2% contribution to GDP of all innovations realised in Romania and four unicorns founded in Romania and active globally, with either headquarters or secondary offices in Romania. Achieving these targets will be challenging and will require an intensification of the measures to support the Romanian business environment as a whole, with a focus on start-ups, simplification and access to capital.

2024 recommendation on unicorns: Extend the measures to support an innovative, R&D driven ICT sector, as part of the competitiveness and technological leadership objectives in the roadmap.

Romania made limited progress in addressing the recommendation in 2024. The Start-up Nation programme is well known and has continuously increased the available funds (100% EU funding in 2024). Nevertheless, problems persist, particularly in the scale-up phase, essential for achieving unicorn status. Romanian companies continue to rely on own resources to invest, which hampers growth. Because of the lack of funding, the ICT market remains outsource driven and averse to risk.

Strengthening Cybersecurity & Resilience

In Romania, 46.81% of individuals undertook at least one measure to protect their data online, considerably below the EU average of 69.55%. In addition, only 21.72% of Romanians took three or more actions (and therefore could be considered as having above basic digital safety skills). Reading privacy policy statements was the most common action (30.73%), while checking if websites where personal data was provided were secure was the least common (6.78%).



The number of enterprises that experienced ICT security incidents leading to unavailability of ICT services due to an external attack (e.g. ransomware attacks, denial of service attacks) slightly decreased in Romania, from 3.64% in 2022 to 3.41% in 2024, virtually the same as the EU average (3.43%). However, Romanian enterprises are more prone to incidents leading to the destruction or corruption of data due to hardware or software failures (12.09%) than their EU peers (3.87%), indicating that attacks on Romanian entities tend to be data-driven and likely financially motivated.

91.67% of Romanian enterprises deployed some ICT security measures (near the EU average of 92.76%), with 67.51% of enterprises making their employees aware of their obligations in ICT security related issues, well above the EU average (59.97%).

Romania is below the EU average for deploying of secure internet standards, such as the roll-out of Internet Protocol version 6 (IPv6) for the end users (28%, EU average: 36%), actually decreasing compared to 2023. On the server side, Romania is well below the EU average (6%, against 17% for the EU). IPv6 is an important protocol as it ensures the scalability, stability, and security of the internet. The deployment of this new version is increasingly urgent, as traditional IPv4 addresses have been long depleted. Domain Name System Security Extensions (DNSSEC) is also an important standard to be rolled out as it introduces security features to DNS. In Romania, the DNSSEC validation rate is 4% (Q3 2024), significantly below the EU average of 47% and last in the EU.

Overall, Romania performs near the EU average in certain cybersecurity indicators, but gaps persist in getting individual users to protect their data online and the use of DNSSEC validation.

According to the Digital Decade Eurobarometer 2025, 71% of Romanian citizens think that an improved cybersecurity, better protection of online data and safety of digital technologies would facilitate their daily use of digital technologies. An increase of five percentage points compared to last year, reflects the growing concern of Romanians about this subject.

A study from Mordor intelligence estimates the size of the Romanian cybersecurity market at EUR 175 million and an estimated growth to EUR 293 million by 2030. This increase could be the result of a higher demand for cybersecurity solutions, changes in legislation (see below) and increased pace of digitalisation in both the public and private sectors. The biggest gaps faced by Romania's cyber industry are access to trained cybersecurity professionals and the hesitance of small companies to invest in adequate cybersecurity solutions, mainly due to cost reasons.

Romania has transposed the NIS2 Directive in its national legislation in December 2024, via an Emergency Government Ordinance no. 155/2024. Transposing NIS2 is a key step in improving Romania's cyber preparedness, taking into account the increased level of digitalisation and the intensification of cyber incidents that the country faces (for example in the first quarter of 2024, 26 Romanian hospitals nationwide were affected by an attack on a managed service provider, with a direct impact on hospital operations. Most of the hospitals were able to resume normal operations within a few days).

Romania has a National Cybersecurity Strategy in place, as well as an accompanying Action Plan covering the 2022-2027 period. The strategy mainly aims to strengthen the security and resilience of ICT networks and systems, to strengthen the regulatory and institutional framework for cybersecurity, including international cooperation, and to build public-private partnerships. The strategy is coordinated and implemented by various governmental bodies including the Romanian National Cyber Security Directorate, set up in 2021 under the responsibility of the Prime Minister, and ANCOM. Preparations are underway for a new national cyber security strategy.

Both the Romanian National Cyber Security Directorate (DNSC) and the National Coordination Centre (NCC RO) applied to multiple projects funded by the European Cybersecurity Competence Centre, including an EUR 7.2 million project dedicated to strengthening the administrative capacity of the NCC RO. The two institutions are also active in projects that aim to improve the preparedness and cyber resilience of SMEs (Cybersecurity Deployment Preparedness Support, Capacity and Capabilities – CYSSDE and SECURE - Strengthening EU SMEs Cyber Resilience). NCC RO also supports the registration of the Romanian cyber community, in line with the European Cybersecurity Competence Centre decision on community guidelines. This is expected to build a stronger community of cyber experts, including SMEs, academia and NGOs.

Other notable activities concern awareness raising campaigns and support measures for cybersecurity skills: the National Cyber Security Olympiad, started in 2024, is continuing in 2025, leading to a bootcamp that prepares the national team for the European Cybersecurity Challenge; the first batch of authorized cybersecurity trainers has been published; several new university programmes on cyber skills; an annual cyber security conference; participation in several cybersecurity related projects under Horizon Europe and Digital Europe Programme.

2024 recommendation on cybersecurity: (i) Extend the roadmap to better reflect the growing interest in and activities related to cybersecurity, setting clear objectives in this respect; (ii) Continue the implementation of the 5G Cybersecurity Toolbox to ensure secure and resilient 5G networks.

Romania made significant progress in addressing the recommendation in 2024. Romania transposed the NIS2 Directive in the national legislation, which should foster a higher level of cybersecurity overall for the country. It has continued to implement the 5G Toolbox and improved the cybersecurity posture of its 5G networks.

Protecting and empowering EU people and society

Empowering people and bringing the digital transformation closer to their needs

Romania continues to struggle with basic and advanced digital skills. Significant resources have been allocated to remedy the issue, including by promoting digital skills throughout the education process, but this is a systemic problem that can only be addressed in the long term. Fewer resources are allocated to training those already employed, although there is now a comprehensive strategy in place to enhance the digital capabilities of civil servants. At the same time, Romania performs well in educating ICT specialists but struggles with retaining talent in the country.

A large share of NRRP resources have been allocated to the digitalisation of the public sector. New initiatives such as the Governmental cloud, ROeID and the Single Digital Portal have the potential to radically change the current low performance levels. Considerable scope for simplification, interoperability and improving user centricity remains.

According to the 2025 Eurobarometer, 67% of Romanians think that accessing public services online will be important for their daily life in 2030. Concerning human support to help access and use digital technologies and services, 67% consider it would improve their daily use of digital technologies, and 79% think public authorities should consider it important to ensure that people receive proper human support to help them adapt to the changes in their lives brought about by digital technologies and services.

Equipping people with digital skills

Basic Digital Skills

Romania continues to underperform on basic digital skills. According to data from 2023, 27.7% of Romania's population had basic digital skills (2030 national target of 50%), significantly below the EU average of 55.56%.

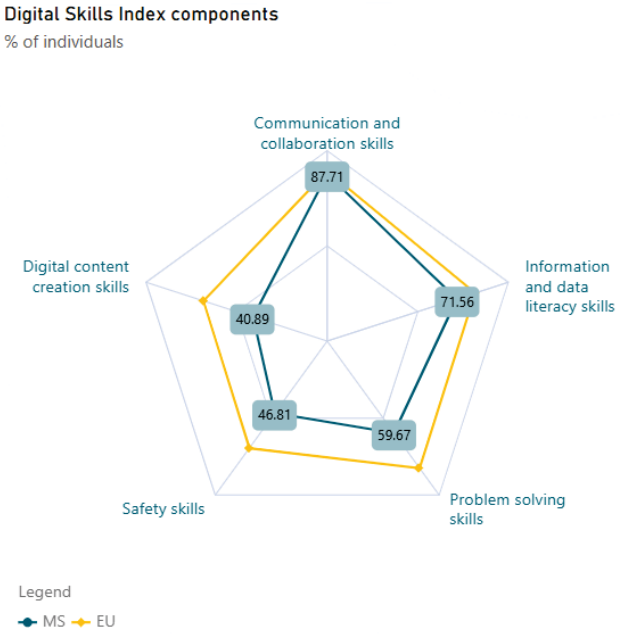
While there is no data for 2024, a breakdown by demographic factors provides for the following insights:

- **Gender gap:** Romania's gender gap in digital skills is average, with a 2.59 percentage point difference between men at 29.06% and women at 26.47%. This gap is just over the EU average (2.23pp), suggesting some discrepancy in digital skills between genders.
- **Education level:** Educational attainment in Romania correlates with digital skill levels. Among those with higher education, 63.93% have at least basic digital skills, notably less than the EU average (79.83%). The situation is more pronounced for those with the least formal education, only 12.58% of whom have at least basic digital skills (33.61% for the EU).
- **Living areas:** Rural residents in Romania have the lowest levels of at least basic digital skills at 20.99%, far below the EU average for rural areas (47.50%).
- **Age groups:** The 16 to 24-year-old age group in Romania is the most digitally skilled, yet their proficiency rate of 47.19% is still far below the EU average (69.98%). The 65 to 74-year-old

group demonstrate very few digital skills at 6.17%, considerably lower than the EU average for their age group (28.19%).

Overall, there are clear indications of a digital skills gap that preponderantly affects people living in rural areas and the elder population.

Romania underperforms in the Digital Skills Index competencies, lagging behind the EU average in all categories. Its best performance is in communication and collaboration skills at 87.71%, just shy of the EU average. The area most in need of improvement is digital content creation, with a low score of 40.89%, substantially below the EU average (68.28%).



Extensive efforts are ongoing to address the issue, part of the broader education reform in the country. Some positive developments indicate that the importance of integrating digital technology in the education system is widely acknowledged and a key feature in improving formal education at all levels.

In 2025, the Ministry of Education and Research's budget has been increased by 9.58% compared to 2024, with education as a whole now receiving an estimated 4.5% of GDP. Part of this increase is directly correlated with NRRP investments, including early school leave prevention, endowing schools with necessary materials and dual learning. It is important that the concept of acquiring the necessary digital skills is integrated continuously in the curriculum and represents a key KPIs for investments throughout the entire learning cycle. This needs to be accompanied by clear training programmes for teachers, so that they have the necessary competences to teach the necessary digital skills to their students. To this end, a recent announcement from the Romanian Ministry of Education intending to train over 100 000 educators and give them the necessary skills they need is a positive development. Another recently announced pilot-project between the Ministry of Education and Microsoft will aim to integrate AI in educational institutions, aiming to streamline teacher's work and optimise the students' learning process.

Legislative measures have also been adopted, including the National Framework for Digital Competence of Education Professionals (DigCompEdu) and the National Framework for Digital Competence of Students. These frameworks provide a structured approach to developing digital skills and offer clear guidelines for teachers to integrate technology into their teaching practices.

Furthermore, **Romania's accession process to the OECD** has reached a significant milestone, with the country receiving the formal opinion in December 2024. This step confirms the completion of the evaluation process and the alignment of Romania's policies with OECD standards in education and skills and demonstrates the country's commitment to improving its education system and aligning it with international best practices.

The Romanian workforce continues to have low digital skills, with important consequences for the labour market and the country's digital transition objectives. With a shrinking working population,

projected to decline by 23.7% by 2050, there are strong indications that skills gaps will lead to growing labour shortages, potentially threatening competitiveness.

While there appears to be increasing support for education and active labour market policies (integrating the unemployed, training them to acquire digital skills), **training activities for the active workforce largely seem to be left in the hands of the private sector.** At the same time, Romania's roadmap outlines a comprehensive strategy to enhance the digital capabilities of its public sector workforce, supporting both the digital skills and public service digitalisation objectives. Three authorities have a dedicated role in building a digital competence framework for civil servants – the Authority for Digitalisation of Romania, the National Authority for Civil Servants and the National Institute for Administration. The Project, which benefits from financial assistance from the EU under the Technical Support Instrument, will map what digital competencies are needed by the Romanian civil service; develop a general digital competency framework and issue recommendations for its operationalisation.

The section of the roadmap dedicated to digital skills is notably detailed, comprising 14 distinct measures that primarily focus on educational reforms and investments. Although specific budget allocations are not provided, it is clear that this objective receives substantial funding, with the Recovery and Resilience Facility being the primary contributor, followed by cohesion policy funds.

In summary, Romania's digital skills profile has significant room for improvement and is well below the EU average, with glaring societal divides based on age, education level and living areas.

2024 recommendation on basic digital skills: (i) Intensify the measures related to upskilling and reskilling of the workforce; (ii) Continue to improve the quality and the relevance of courses, teaching digital skills not only as a separate subject but also integrating digital skills and digital education into all levels, while taking a cross curricular approach.
Romania made good progress in addressing the recommendation in 2024. Multiple programmes to stimulate basic digital skills acquisition are in place and will likely lead to an increase of basic digital skills. The measures to support education could have a major impact in the medium and long term, but sufficient political will and careful implementation will be required. The digital gaps affecting rural areas as well as the older population needs to be addressed, as it could hamper efforts to digitalise public service (primarily limited uptake). Romania still needs to do more to support the upskilling and reskilling of workers. Key potential measures could include integrating life-long learning policies in upskilling and reskilling schemes and constant dialogue between the education and private sectors to understand the market needs and adapt the school curricula accordingly.

ICT specialists

ICT specialists represent 2.8% of total employment in Romania (2030 national target of 4%), with a growth rate per year of 7.7%, above the EU rate of 4.2%. The country did not provide a national trajectory point for 2024. While this number suggest the sector is growing at a faster rate than the EU, **the percentage has remained stagnant (2.8% in 2022, 2.6% in 2023)**.

When examining the gender breakdown of ICT specialists, Romania shows a higher percentage of female ICT specialists compared to the EU average. In 2023, 26.0% of ICT specialists in Romania were female, compared to the EU's 19.4%. This figure rose to 27.3% in 2024, while the EU's percentage

increased marginally to 19.5%. Romania's growth rate of 5.0% in female ICT specialists outpaces the EU's 0.5%, indicating a positive trend in gender diversity within the ICT sector.

Overall, however, there is considerable scope and reason to improve the situation. 6.9% of all post-secondary education graduates are ICT specialists, putting Romania among the EU's leaders. The discrepancy between the share of ICT graduates and employed specialists is explained to a large extent by the difficulty in retaining talent in Romania, but also by other aspects of the wider context, such as the low rate of post-secondary education graduates across the entire population.

Nevertheless, the ICT sector is a growth engine for the Romanian economy, with the sector's turnover increasing by double digits every year (Romania's ICT sector turnover passed EUR 15.5 billion in 2023, with a 12,16% growth compared to 2022). At the same time, **Romania's ICT sector is primarily based on outsourcing**, which makes it vulnerable to demand shifts globally. A slowing down of the ICT market worldwide is one of the factors that led to a lower growth rate in Romania, as well as the decrease in the number of ICT employees.

In terms of labour market demand, Eurostat experimental statistics based on web scraping show that in Romania, the profiles of 'software and applications developers and analysts' are the most sought after, representing 57.2% of online job advertisements for ICT specialists (58.0% at EU level). Two types of profiles are more actively sought in Romania than in the EU in average: 'information and communications technology service managers' (6.4% of online job advertisements for ICT specialists), and 'telecommunications and broadcasting technicians' (2.3%).

2024 recommendation on ICT specialists: Consider additional measures targeting to retain ICT specialists in the country.
Romania made no progress in addressing the recommendation in 2024. Romania has eliminated all fiscal benefits previously offered to ICT employees. This, combined with broader uncertainty in the Romanian ICT market and fluctuating trends on international markets, could impact a key growth driver of the Romanian economy.

Key digital public services and solutions – trusted, user-friendly, and accessible to all

For digital public services, Romania scored 62.75 (2030 national target of 100), with a growth rate of 20.2% compared to 2023, well above the EU average of 3.6%. The country did not provide a national trajectory point for 2024. For cross-border digital public services for individuals, Romania's score was 35.04 in 2023 and 50.85 in 2024, compared to the EU's 68.37 and 71.28, respectively. Romania's growth rate of 45.1% significantly exceeded the EU's 4.3%. The share of people using government internet websites or apps is increasing year after year in Romania, from 23.55% in 2022 to 26.91% in 2024. This remains far below the EU average of 74.71% in 2024, however.

For digital public services for businesses, Romania's total score was 55.14 (2030 national target of 100), with a growth of +10.2% compared to 2023 but well below the EU's score of 86.2. The country did not provide a national trajectory point for 2024. For cross-border digital public services for businesses, Romania's score was 17.5 in 2024, significantly below the EU's 73.76, respectively. Romania's growth rate of 26.0% was substantially higher than the EU's 0.9%.

Romania's total score for access to e-health records was 75.1 in 2024 (no target for 2030), below the EU's score of 82.7. The country did not provide a national trajectory point for 2024. Romania's growth rate of 28.2% compared to 2023 in this category was notably higher than the EU's 4.5%.

Romania's digital public services landscape shows clear improvement, with significant growth rates across various sectors and a clear catching-up trend, although the absolute scores remain below the EU average.

In the national roadmap, the Romanian authorities committed themselves to target scores of 100 for both digital services for individuals and for businesses, aligning the national targets to the EU level of ambition. **While these targets are ambitious given Romania's starting point, if the current level of progress is maintained, they could be reached by 2030.** A significant number of reforms and measures have been carried out in recent years and are still ongoing. The roadmap estimates that these will start showing impact on the ground, and implicitly on the KPI performance of Romania, as of 2026.

eID

In 2024, the European Commission recognized ROeID as the eID system used by the Romanian Government, after testing on the system's conformity according to the eIDAS Regulation. Following this approval, the ROeID system can be used cross-border in all relevant EU IT systems via the eIDAS nodes. The official application, also entitled ROeID, is now out of beta testing and fully available on mobile application stores. According to the latest data, the app already has over 110 000 active users.

The Romanian NRRP includes a EUR 150 000 000 investment supporting the eID target. The project aims to provide 5 million citizens with electronic identity cards and digital signatures by 2026. The issuing of the new electronic identity cards was formally approved in March 2025 and a pilot project started in the County of Cluj, with the national distribution of the new cards already underway. Additionally, the new cards will also be available for children under 14 years old (not currently the case), for whom the new identity cards could also be used as travel documents.

Digitalisation of public services for citizens and businesses

April 2025 saw the start of the National Interoperability Platform's implementation. This is a key element in the success of the digitalisation process, as the platform will enable public and private entities to exchange data in a secure and standardised environment, allowing for the implementation of the 'once-only principle'. A sound operationalisation of the Platform could lead to significant simplification of existing procedures, reduce fragmentation between existing eGovernment solutions and increase interinstitutional cooperation and data exchange.

A key development in 2024 was the physical installation of the dedicated cloud government infrastructure in December. The system has been built in partnership between the Romanian Digitalisation Authority, the Special Telecommunications Service and the Romanian Intelligence Service. Financed via the NRRP (EUR 100 million), this is deemed by the Romanian Government as a foundational step to digitising public services nationally, with 30 public institutions connected to the dedicated cloud component. The infrastructure is also believed to offer sufficient security, scalability and data processing power to meet the growing digital services demands of both users and public entities. The procurement process for the migration of public authorities' applications has been launched in February 2025, supported by an EUR 170 million budget (NRRP resources), with technical and procurement support from the World Bank and the European Investment Bank. Because of the transition to the governmental cloud, Romanian authorities expect that over 30 public services will be available online by the end of 2025.

The NRRP also envisages the creation of a Single Digital Portal (PDURo) aiming to help individuals and businesses access information on administrative procedures online, with the important administrative procedures for cross-border users being available online. The contract for implementing

the project was signed in March 2024. The portal will replace the current Single electronic contact point and will be compatible with the Single Digital Gateway requirements. The new platform should be available starting from September 2025.

One of the most advanced public platforms is ghiseul.ro, where taxpayers can pay their fiscal obligations online. An important measure to stimulate uptake of this means of payment is the 10% tax reduction that is offered by the Romanian state for those using the platform. According to the Romanian authorities, ghiseul.ro has over 2.6 million active users, with 1600 public institutions and 400 payment procedures available, including payments for ID, passports and driving licenses.

Another notable project, **'Digitalisation of Employment Services',** has received EUR 17.4 million in funding to develop a new system that enables the online submission of documents, registration for benefits, and access to professional training programmes. The PULS project allows Romanian employers to access the Romanian National Employment Agency's services digitally and declare job vacancies, request subsidies and submit documents.

These major projects should considerably transform how public services are delivered in Romania. This is essential moving forward, as digitalisation can be a significant factor in how the public and the business environment perceive the interactions with the state. If implemented correctly, digital technology can demonstrably simplify existing procedures and lead to win-win situations, particularly if they are not used to simply mirror what exists in the real world, but rather lead to streamlining existing procedures, taking into account users' needs.

2024 recommendation on digital public services: Maintain the efforts needed to implement the ambitious ongoing agenda for the digitalisation of public services, including by ensuring sufficient levels of funding, project management capacity and ICT specialists, and extensive/strong coordination across the various relevant authorities.
Romania made significant progress in addressing the recommendation in 2024. Overall, it is essential that the announced and ongoing projects become reality and are maintained and developed over time. The public entities running these projects should have the necessary resources (finance, project management, ICT specialists) to continue them after the original contract is finalised. Streamlining of the multiple existing projects that have been announced as the 'single point of contact' could also be envisaged.

e-Health

Romania improved its e-health performance in 2024. More data has been made available digitally and more people gained the technical ability of access their electronic health records in 2024. Nevertheless, less than 50% of the categories of healthcare providers are connected and supplying data.

While individuals can access their electronic health records via an online portal, a mobile application does not seem to be available. Individuals can authenticate themselves with the national eID scheme, based on two factor authentication. Online access services do not seem to follow the guidelines on web accessibility.

The current Health Insurance Information Platform (PIAS) is outdated (set up in 2002) and frequently prone to ICT system failures (in February 2025, the platform encountered difficulties for extended periods of time due to technical issues, which led to multiple delays in patient treatment and difficulties in purchasing prescription medicine). The Romanian NRRP includes a project for the

introduction and operationalisation of a new health insurance IT platform. The current platform will have to be kept functional until then.

A new Strategy for the digitalisation of the health system was presented for public consultation in November 2024. The Strategy, which supports the broader National health strategy 2023-2030, is meant to use digital technology to ensure better integrated care for people. The digitalisation Strategy is built on four pillars – public policy, digital skills, infrastructure and simulating industry and innovation. The NRRP is a core component of the strategy, financing the new PIAS, the digitalisation of public health entities, public hospitals and the development of remote medicine solutions.

According to the 2025 Eurobarometer, 71% of Romanians think that digital technologies will be important when accessing or receiving healthcare services (e.g., telemedicine, artificial intelligence for diagnosis diseases) during their daily life by 2030. This is a 9 percentage points increase compared to 2024, reflecting the growing importance of this issue for Romanians.

2024 recommendation on e-health: Expand the coverage of the online access service, make the data regarding medical devices/implants, laboratory tests, and medical images available to citizens through this online access service and onboard more categories of healthcare providers to it.

Romania made good progress in addressing the recommendation in 2024. This momentum needs to be maintained. Furthermore, when implementing the new strategy for the digitalisation of the health system and the relevant projects, it is essential to take into account the main issues that are flagged by the platform users. On the citizens' side, ease of use and extending coverage as much as possible are key priorities, particularly driven by the low level of digital skills and broad reluctance on taking up public digital solutions. On the health practitioners' side, priorities should include interoperability, standardisation, availability of multiple data types. On the platform operator's side, sufficient computing and data storage power, maintenance and continuous platform upgrade should be key features going forward.

Building a safe and human centric digital environment and preserving our democracy

Romania's political landscape in 2024 rendered it an attractive target for disinformation campaigns, particularly in the context of the country's parliamentary and presidential elections in the second half of the year. Romania experienced a surge in political messages and advertisements on social media platforms, a phenomenon exacerbated by the high usage of social media among the population.

To mitigate the risks associated with disinformation and ensure the integrity of democratic processes, **Romanian authorities have been taking steps to ensure a better coordination between the Romanian digital service coordinator (the National Authority for Management and Regulation in Communications) and all relevant institutions.**

Maintaining a constant dialogue with online platforms, taking into account the measures and tools provided by the Digital Services Act, needs to remain a priority. Such efforts are crucial in preserving the integrity of democratic processes in the face of increasing online political participation and opinion expression, which saw a significant spike in 2024 due to the electoral context. While under the EU average for all categories, Romanians were more active online in online consultations (8.82%), expressing their opinions on social media (15.89%) and using the Internet for political participation in general (18.59%) (EU averages of 10.05%, 16.48% and 20.45% respectively).

The 2025 Eurobarometer shows that 78% of Romanians think that public authorities should prioritise shaping the development of Artificial Intelligence and other digital technologies to ensure that they respect our rights and values.

Regarding online safety, Romania reported the lowest share of the population in the EU encountering hostile or degrading online messages (20.81%), well below the EU average (33.5%). Young people aged 16-24 reported higher exposure (26.64%) to such messages than adults (21.94%). Women reported the lowest figure in the EU, at 19.66%, which may indicate different trends in internet usage, but also possible underreporting.

In spite of the positive measures adopted in 2023, including the National Strategy for the protection and promotion of children's rights, **cyber bullying remains an issue**, with a recent survey from Save the Children Romania showing that 42% of children (6-17 years) experienced being offended or humiliated on social media, with 47% indicating that this happens at least once a month. The survey also indicates that 6 out of 10 children indicate that they have felt personally affected by negative experiences online. Such findings illustrate the need to strengthen media literacy training at all levels of education.

According to the Digital Decade Eurobarometer 2025, 83% of Romanians think public authorities should take urgent action to protect children online regarding the negative impact of social media on children's mental health.

Leveraging digital transformation for a smart greening

Romania adopted its national strategy on education and climate change in 2023. A positive development has been the development of the Action Plan to implement the strategy, which structures implementation activities on four objectives: a national education programme for the environment and climate, investing in sustainable school infrastructure, identifying the necessary educational resources and training education personnel in climate change and environmental concepts. Financing for the Action plan are planned to be obtained from the Ministry of Environment, Water and Forestry, NRRP projects, MFF projects, other financing mechanisms (public-private partnerships, etc.).

Romania recently adopted a Sustainability Code, which comes with a dedicated platform to facilitate sustainability reporting that should improve how outcomes of measures taken are measured.

The Romanian roadmap underlines that the major digitalisation efforts in the areas of public services, including the digitalisation of environmental services, have strong synergies with climate action. For example, the Start-up Nation Romania programme for 2024 covers the purchase of digital equipment/solutions with impact on resource savings and sustainability, including technology for waste collecting, recycle and reuse.

The concept of energy efficiency is important for 19.43% of Romanians when purchasing electronic devices by the wider population, a percentage slightly higher than the EU average (19,35%). Similarly, the possibility of extending the lifespan of the product is also deemed more important by Romanians (14.59%) than the EU average (9.53%). However, both of these criteria are far less important than the device price (73.41%), performance (43.85%) and design (51.8%).

Romanians tend to recycle their mobile, laptop and desktop devices at about the same rate as the EU average. Romania scores higher than the EU for selling old devices, particularly mobile phones (25.67% sold or given away by Romanians compared to the EU average of 18.05%) and laptops (18.47% sold or given away by Romanians compared to the EU average of 11.78%).

According to the Digital Decade Eurobarometer 2025, 69% of Romanians consider digital technologies important to help fight climate change (below the EU average of 74%, but with an increase of 9 percentage points compared to last year), while 68% of Romanian respondents think that ensuring that digital technologies serve the green transition should be an important action for public authorities.

2024 recommendation on leveraging digital transformation for smart greening: Develop a coherent approach to twinning the digital and green transitions. First, promote improvements in energy and material efficiency of digital infrastructures, in particular data centres. Second, support the development and deployment of digital solutions that reduce the carbon footprint in other sectors, such as energy, transport, buildings, and agriculture, including the uptake of such solutions by SMEs.

Monitor and quantify the emission reductions of the deployed digital solutions in line with the relevant EU guidance and with the support of the methodology developed by the European Green Digital Coalition, in view of future policy development, as well as of attracting relevant financing.

Romania made limited progress in addressing the recommendation in 2024. More has been done to promote green objectives in funding programmes, such as Start-up Nation. The national strategy on education and climate change should lead to results long term, as well. Nevertheless, there is considerable scope to improve the situation. More can be done by studying and implementing appropriate existing best practices in terms of using digital technology to reduce carbon footprint, such as digital twins for buildings or smart farming techniques for agriculture.

Annex I – National roadmap analysis

Romania's national Digital Decade strategic roadmap

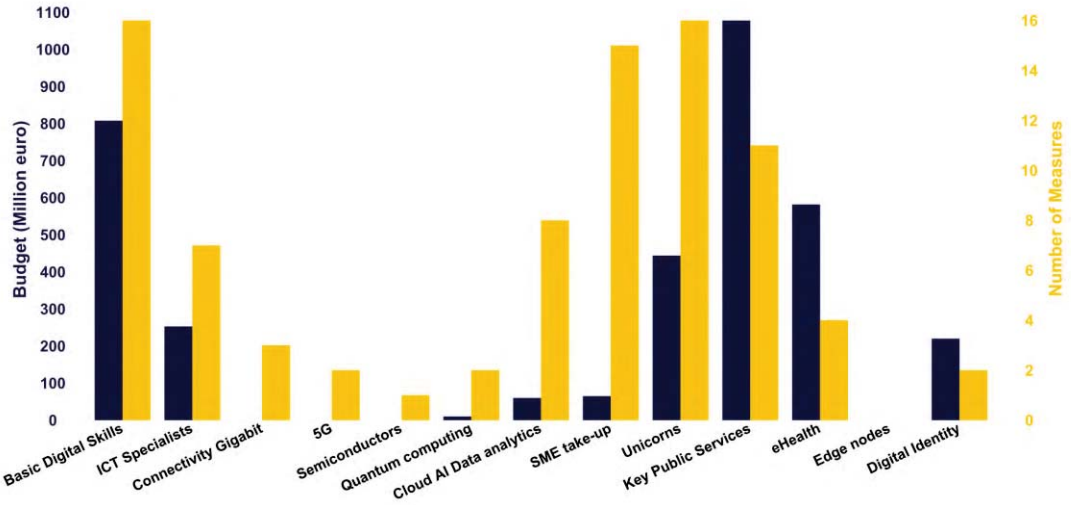
Romania adopted its national Digital Decade roadmap on 14 October 2024. The country report published in July 2024, relied on the draft roadmap, shared in December 2023 by the Romanian authorities. The difference between this draft and the formally endorsed document were not substantial and do not alter the relevant findings of the above-mentioned report.

Romanian authorities have not submitted an adjustment to the roadmap. They declared their intention to do so in line with article 8 (3) of the decision establishing the Digital Decade Policy Programme, but at the time of writing, neither a formally endorsed document, nor its draft, has been shared with the Commission.

There is hence no information available on measures taken to address the following recommendation issued in 2024:

- TARGETS: (i) propose targets and trajectories for edge nodes and e-health; (ii) revise the unicorns target in line with the current KPI definition; (ii) Raise the level of ambition for 5G, basic digital skills, ICT specialists, digitalisation of SMEs and the take up of advanced digital technologies.
- MEASURES: (i) review the measures supporting the targets for the digitalisation of business and take up of advanced digital technologies, to ensure a more comprehensive overview, as well as the objectives of the programme; (ii) continue the institutional process to develop policies in the areas of semiconductors, edge, and quantum; (iii) review the budget description of the measures funded by national budget and cohesion policy; (iv) classify the measures according to the target and/or objective that they contribute to; (v) Provide more information on the implementation of digital rights and principles (and Digital Decade general objectives), including on contributing measures.

Measures and budget in national roadmap[6]



[6] When referring to national roadmaps, data used in this report are those declared by the Member States in their national roadmaps, on the basis of the Commission's guidance (C(2023) 4025 final). Data might reflect possible variations in reporting practices and methodological choices across Member States. No systematic assessment of the extent to which Member States followed the guidance was carried out.

Romania

The roadmap includes 97 measures, with a total value of almost EUR 3.59 billion (about 1.01% of GDP). They cover all Digital Decade targets, but some measures are deemed to contribute to more than one target (e.g. measures related to digitalisation of businesses), making precise attribution difficult.

Annex II – Multi-country projects and best practices

MCP and EDICs

Romania is a member of the EUROPEUM EDIC. Romania is also an observer to the Alliance for Language Technologies EDIC and is working towards setting up an EDIC on agri-food. Romania is directly participating in the IPCEI on Microelectronics and Communication Technologies (IPCEI-ME/CT). Romania is also a participating state of the EuroHPC Joint Undertaking (JU) and of the Chips JU.

Romania has contributed to the Best Practice Accelerator[7] by sharing one case of best practice in the Digital Skills cluster (Skills in Advanced Technologies for SMEs).

EU funding for digital policies in Romania

Romania allocates 22% of its total recovery and resilience plan to digital (EUR 5.8 billion)[8]. In addition, under cohesion policy, EUR 2.7 billion (representing 9% of the country's total cohesion policy funding), is dedicated to advancing Romania's digital transformation[9]. According to JRC estimates, EUR 6.5 billion directly contribute to achieving Digital Decade targets (of which EUR 4.8 billion comes from the RRF and EUR 1.7 billion from cohesion policy funding)[10].

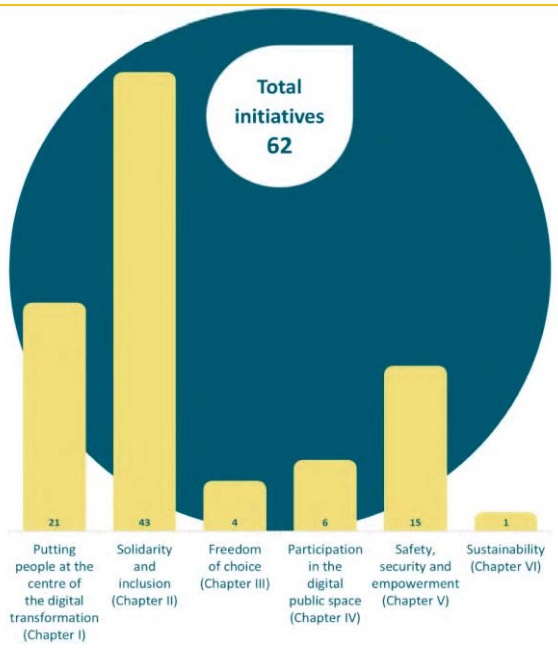
[7] The Best Practice Accelerator (BPA) is a platform that enables Member States to share successful measures and challenges encountered in their efforts to meet their Digital Decade targets and objectives. Best practices are made available to Member States via the BPA Repository and showcased in regular workshops, currently focused on three thematic clusters: Digital Skills, Green IT, and the Uptake of Digital Technologies.

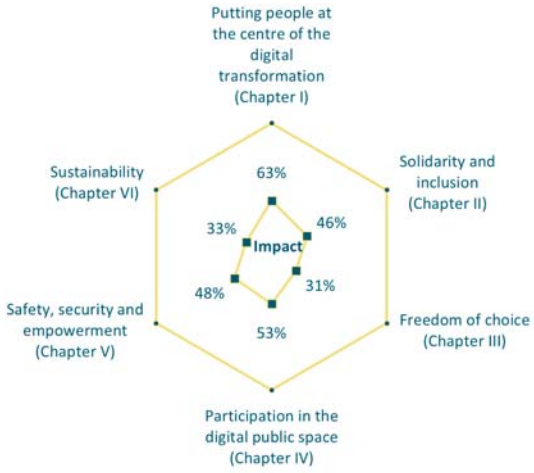
[8] The share of financial allocations that contribute to digital objectives has been calculated using Annex VII to the Recovery and Resilience Facility Regulation. Last data update: 16 May 2025.

[9] This amount includes all investment specifically aimed at or substantially contributing to digital transformation in the 2021-2027 Cohesion policy programming period. The source funds are the European Regional Development Fund, the Cohesion Fund, the European Social Fund Plus, and the Just Transition Fund.

[10] Joint Research Centre, Nepelski, D. and Torrecillas, J. Mapping EU level funding instruments 2021-2027 to Digital Decade targets – 2025 update, Publications Office of the European Union, Luxembourg, 2025, JRC141966. Last data update: 10 March 2025.

Annex III – Digital Rights and Principles[11]





Activity on Digital Rights and Principles (figure 1)

Romania has been relatively active in implementing digital rights and principles, with 62 initiatives overall and 2 new initiatives launched in 2024, showing limited progress towards its commitments. **Romania is most active in the area of Putting people at the centre of the digital transformation** (I). There is room for improvement, especially with regards to A fair digital environment (III) and Sustainability (VI) where less activity has been identified.

Impact of Digital Rights Initiatives (figure 2)

Quantitative impact indicators developed by the support study illustrate the level of implementation of digital rights initiatives on the ground. Based on available data, they estimate the impact of measures implemented by key stakeholders in Romania (mainly national government) and how these are perceived by citizens.

The indicators suggest that **Romania is most successful in implementing commitments related to Putting people at the centre of the digital transformation** (I). Romania should strengthen efforts in areas where the impact of digital rights initiatives appears to be limited, notably on Freedom of choice (III).

According to the Special Eurobarometer 'Digital Decade 2025', **46% of citizens in Romania think that the EU protects their digital rights well** (a 1% increase since 2024). This is above the EU average of 44%. Citizens are particularly confident about getting an affordable high-speed internet connection for everyone in the EU (65%, above the EU average of 57%). They are most worried that their right to a safe digital environment and content for children and young people is not well protected (44%, below the EU average of 48%).

[11] Based on a study to support the Monitoring of the Implementation of the Declaration on Digital Rights and Principles, available here. For a more detailed country factsheet accompanying the study, click here.