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PART 12/27

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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DIGITAL DECADE 2025 COUNTRY REPORTS

Greece

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Executive summary

Greece continues its steady progress in rolling out fibre for gigabit connectivity. However, it struggles to fill the gap of ICT specialists and to address a severe digital gap in basic digital skills between different age groups and between rural and urban areas. Despite this, the country's displays an encouraging growth rate in the digitalisation of small and medium-size enterprises.

Greece shows a moderate level of ambition in its contribution to the Digital Decade having set 14 national targets, 57% of which aligned with the EU 2030 targets. The country is following its trajectories well with 88% of them being on track (based on the 2024 trajectories defined for 8 KPIs out of 8 analysed). Greece addressed 77% of the 13 recommendations issued by the Commission in 2024, either by implementing significant policy changes (31%) or making some changes (46%) through new measures.

In 2024, Greece's 5G coverage was among the highest in the EU and was very close to the Digital Decade 2030 target. Despite rapid progress, the adoption of artificial intelligence (AI) by businesses remains below par. The selection of Greece to host one of the seven first AI Factories in the EU confirms the country's commitment to help build the EU's technological leadership. The AI Factory will also contribute to developing and strengthening the start-up ecosystem in Greece. Regarding the transition of public services, although the latest data indicates limited annual progress in services for citizens, the integration of AI into the single digital portal of the public administration will improve the quality, speed and accessibility of public services. Greece has also developed a strategy and new measures for protecting minors online such as the <u>parental control initiative</u>.

	Greece				EU		Digital Decade target by 2030	
Digital Decade KPI (1)	DESI 2024 (year 2023)	DESI 2025 (year 2024)	Annual progress	National trajectory 2024 (3)	DESI 2025	Annual progress	EL	EU
Fixed Very High Capacity Network (VHCN) coverage	38.4%	46.1%	19.9%	42.0%	82.5%	4.9%	100.0%	100%
Fibre to the Premises (FTTP) coverage	38.4%	46.1%	19.9%	42.0%	69.2%	8.4%	100.0%	-
Overall 5G coverage	98.1%	99.8%	1.8%	88.0%	94.3%	5.9%	100.0%	100%
Edge Nodes (estimate)	7	13	85.7%	0	2257	90.5%	95	10000
SMEs with at least a basic level of digital intensity (2)	-	53.4%	13.9%	-	72.9%	2.8%	79.7%	90%
Cloud	18.1%	-	-	-	-	-	56.0%	75%
Artificial Intelligence	4.0%	9.8%	146.5%	6.3%	13.5%	67.2%	32.0%	75%
Data analytics	25.0%	-	-	-	-	-	40.0%	75%
Al or Cloud or Data analytics	33.5%	-	-	-	-	-	-	75%
Unicorns	3	3	0.0%	4	286	4.4%	20	500
At least basic digital skills	52.4%	-	-	-	-	-	70.2%	80%
ICT specialists	2.4%	2.5%	4.2%	3.0%	5.0%	4.2%	4.5%	~10%
eID scheme notification		No						
Digital public services for citizens	75.9	76.7	1.1%	71.8	82.3	3.6%	98.2	100
Digital public services for businesses	86.2	78.6	-8.8%	81.3	86.2	0.9%	100.0	100
Access to e-Health records	73.8	73.8	0.0%	66.6	82.7	4.5%	100.0	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 (DII), which is comparable to the DII value from DESI 2023 (referring to 2022) for the calculation of the annual progress. It is not comparable to the national trajectory that 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 (referring to 2024)

According to the special Eurobarometer on 'the Digital Decade 2025': (i) 78% of the Greek population consider that the digitalisation of daily public and private services is making their lives easier; (ii) 92% consider it important that the public authorities counter and mitigate the issue of fake news and disinformation online; and (iii) 83% consider that ensuring European companies' ability to grow and become 'European Champions' that can compete globally is important for competitiveness.

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

Greece is making progress in deploying gigabit connectivity infrastructure, with a 46.1% VHCN coverage in 2024. While this is below the EU average, the outlook for the 2030 targets is positive, as various operators have recently announced significant investments in the deployment of fibre optic networks across the country by 2027. Greece's high annual growth rate of 13.9% for the digital transition of small and medium-size enterprises (SMEs) resulted in 53.4% of SMEs having at least a basic level of digital intensity in 2024. However, this is still below the EU average. The adoption of AI by enterprises in general is also demonstrating an exceptional progress with more than doubling its share (from 4.0% in 2023 to 9.8% in 2024). The adjustment of the roadmap includes the 'Plan for the transition of Greece to the AI ERA', published in November 2024. This plan includes a chapter on how AI can boost innovation and enhance the business ecosystem. With regards to cybersecurity, Greece has restructured its National Cybersecurity Authority to an independent public law entity aiming at enhancing the Authority's operational autonomy and capacity, enabling it to more effectively coordinate and oversee the implementation of the NIS2 Directive which has been transposed in November 2024 and will continue to develop its national cybersecurity strategy and related policies in alignment with the EU and the national strategic priorities.

Protecting and empowering EU people and society

Increasing the number of ICT specialists in employment remains one of the biggest challenges faced by Greece in its digital transition. Additional measures to familiarise young people with digital technologies very early during their schooling have been included in the adjustment of the national roadmap to attract young people to ICT studies and careers by making them familiar with digital very early during their schooling. The initiative to reverse the serious brain drain during the economic crisis and to encourage highly skilled Greeks living abroad to return to the Greek labour market will also help to increase the number of ICT specialists in employment. The country also faces a challenge in fostering digital skills for all, with significant gaps between age groups and between rural-urban segments of the population. The annual rate of progress in the digital transformation of public services and businesses is slowing down, although the country continues to actively implement its broad strategy for the digital transformation of public services. The introduction of the services related to the Single Digital Gateway regulation (SDGR) present additional challenge for these indicators to reach the target. In 2024, Greece launched a large-scale project to set up a new eID infrastructure and also integrate it with Gov.gr Wallet and the new ID cards. However, it has not yet notified an e-ID scheme to the Commission under the eIDAS Regulation. In line with the Commission priority of protecting minors online, Greece has launched the 'Kids Wallet' application as part of an overall strategy on this area.

Leveraging digital transformation for a smart greening

Greece is addressing the environmental impact of the digital transition and digital infrastructure, by stimulating private investments in green data centres and by addressing the need to optimise the distribution of renewable energy for the growing number of digital data centres across the country.

Additionally, the public sector is implementing initiatives, such as an action plan for green and innovative public procurement.

National digital decade strategic roadmap

Greece submitted adjustments to its national Digital Decade roadmap on 17 January 2025, with specific follow-up actions addressing a substantial number of recommendations issued in 2024. It includes 16 additional measures, and an in-depth analysis of the situation. In particular, Greece explained why it has not, at this stage, revised the national targets that were not aligned with the EU 2030 targets. This concerns the targets related to the digital transformation of SMEs and to the adoption of technologies (AI, cloud, data analytics), as well as the two targets related to digital skills. The updates are aligned with the new Commission's priorities, such as: (i) advancing AI technology and innovation; (ii) deploying submarine cables to increase the resilience of backbone networks; (iii) joining forces to develop capacities in edge technology, such as quantum computing; and (vi) protecting minors online. The adjustment includes reporting on the consultation of stakeholders. The roadmap and the adjustments to it continue to build on Greece's national digital transformation strategy (for 2020-2025). It contains priorities in the four pillars of the Digital Decade, while adding new measures in strategic digital technologies, such as AI and quantum computing. The updated roadmap contains 125 measures and has a budget of EUR 6.1 bn (equivalent to 2.57% of GDP). It also gives a rough estimate of EUR 7 bn in private investments over the coming years in data centres and gigabit connectivity. The revised roadmap covers the broad objectives of the Digital Decade, such as cybersecurity and resilience, building a safe and human centric digital environment, and promoting the responsible use of AI. In 2024, the Ministry of Digital Governance launched the revision of the national digital transformation strategy (for 2020-2025) by consulting the Executive Network of Digital Transformation (ENDT), a large network of public services in order to produce a national policy for aligning the future national digital transformation strategy (for 2026-2030) with the Digital Decade targets.

Funding & projects for digital

Greece allocates 21% of its total recovery and resilience plan to digital (EUR 7.4 billion)¹. In addition, under cohesion policy, EUR 2.7 billion, representing 13% of the country's total cohesion policy funding, is dedicated to advancing Greece's digital transformation².

Greece is a member of the 'Alliance for Language Technologies' European Digital Infrastructure Consortium (EDIC) and of the EUROPEUM EDIC for blockchain. The country is directly participating in the important project of common European interest on Microelectronics and Communication Technologies (IPCEI-ME/CT). Greece is also a participating state in the EuroHPC Joint Undertaking (JU) and of the Chips JU.

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.

Greece has contributed to the Best Practice Accelerator³ by sharing one best practice in the 'Digital Skills' cluster: 'Training Civil Servants in Cloud Computing Technologies' and one best practice in the 'Uptake of Digital Technologies' cluster: 'the Greek Data Strategy and Interoperability'.

Digital rights and principles

According to a support study, Greece has been relatively active in implementing the <u>European</u> <u>Declaration on Digital Rights and Principles</u>, with 43 initiatives overall but no new initiatives launched in 2024. Greece is most active in digital education, training and skills while less activity has been identified with regards to Sustainability. Measures regarding sustainability appear to have most impact on the ground, in contrast to those addressing the participation in the digital public space.

Recommendations

- **ICT specialists:** continue to explore options focusing on raising the number of ICT specialists in employment.
- **Basic digital skills:** address the large digital gap in basic digital skills, between age groups and between rural and urban areas.
- **Digital public services:** address all the dimensions of online public services for citizens and businesses, including the cross-border dimension.
- Uptake of digital technologies by businesses: further develop the ecosystem and raise awareness of existing opportunities and resources for businesses to benefit from advanced digital technologies such as AI and from access to innovative process (e.g. through the European Digital Innovation Hubs (EDIHs).
- **e-ID:** notify an e-ID scheme to the Commission.
- **Smart greening**: make efforts to leverage digital technologies for smart greening in additional sectors of the economy (e.g. transport, buildings and agriculture).

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.

A competitive, sovereign and resilient EU based on technological leadership

Greece continues to implement its strategy and reforms to digitally transform the economy, with encouraging signs. Although challenges remain in terms of technological leadership. The country still suffers from a low level of private investment, but many recent signs show a growing interest in digital infrastructure and high-tech sector.

In the last five years, Greece has had an active policy to attract investments in digital technology which is starting to show results. Substantial investment plans in data centres are taking shape, and Greece could become a regional hub for data centres by 2030. The deployment of new submarine cables also reinforces the backbone digital infrastructure of the country and will contribute to connect Greece with several countries bordering the Mediterranean and beyond, putting the country on the map of the global digital communications gateway.

Greece was selected in 2024 to host one of the seven first Artificial Intelligence (AI) Factories in the EU. The 'Pharos' project aims to create an AI ecosystem in the country bringing together academia, research, industry and the public sector with a focus on health data utilisation, climate change mitigation, and fostering a Greek language model as part of the country's digital transformation strategy. The project will also foster the growth of the dynamic start-up ecosystem in Greece.

According to the Digital Decade Eurobarometer 2025⁴, 86% of respondents in Greece consider that building efficient and secure digital infrastructures and data processing facilities should be a priority for the public authorities.

Digital transformation of enterprises remains a challenge for Greece, although the business sector showed significant annual growth in 2024 in the use of AI technologies. On the digital maturity of SMEs (53.42%) Greece remained considerably below the EU average (72.91%) albeit with an impressive rate of progress (13.9%). The features of Greek business demography could explain the difficulties in seeing tangible results on this KPI. The implementation of measures foreseen in the Recovery and Resilience Plan is set to contribute to address the need for technology adaptation of businesses. Investments and reforms planned for the digital transformation of the public and private sectors should be favourable to the growth potential.

In Greece, the ICT sector represented 3.04% in gross value added in 2022 below the EU average of 5.46%. R&D spending in the ICT sector represented 25.34% of the total R&D business expenditures in 2022. R&D personnel in the ICT sector account for 34.51% of total employed R&D across the economy⁵, which is relatively high compared to other EU countries with a similar population⁶.

In the 2024 European Innovation Scoreboard, Greece is ranked as a 'moderate innovator'. Its performance has improved since last year's report but remains below the EU average. In 2024, Greece's start-up ecosystem continued to grow, but early-stage funding remained limited. However,

⁴ Special Eurobarometer 566 on 'the Digital Decade' 2025: <u>https://digital-strategy.ec.europa.eu/en/news-redirect/883227</u>

⁵ 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

⁶ Observation, in the absence of a figure for the EU average

overall in 2024, investors signalled their confidence in Greece's start-up sector despite global economic uncertainties.

In terms of sovereignty building, Greece is contributing to the European strategic autonomy with two projects for critical raw materials. In March 2025, the European Commission published a list under the critical raw materials regulation including two projects extracting and processing raw materials in Greece which are essential in technologies for digital transition and energy. As technology advances and threats evolve, Greece transposed the NIS2 Directive in 2024 and continues to develop its cybersecurity strategy.

Building technological leadership: digital infrastructure and technologies

Greece's gigabit connectivity infrastructure deployment has recently shown positive progress with good prospects of achieving the 2030 target, although challenges remain: slow fibre roll-out in sparsely populated areas and, overall, a level of VHCN coverage that is still below the EU average. However, recent announcements by various operators about significant investments in fibre optic networks across the country by 2027 are positive signs of this dynamism. At the same time, 5G networks' coverage in Greece is already almost reaching the 2030 target.

Connectivity infrastructure

Greece's very high-capacity network (VHCN) coverage stood at 46.06% in 2024, significantly lower than the EU average 82.49% but showing a growth rate of 19.9% outperforming the EU's 4.9%. For households in sparsely populated areas, the VHCN coverage was 0.00% in 2023 and rises at 3.26% in 2024 notably lower than the EU's 61.89%.

Greece's fibre to the premises (FTTP) coverage at 46.06% largely reflects total VHCN in absence of coaxial networks in the country. This result is lower than the EU average 69.24%, but with a growth rate of 19.9% significantly higher than the average EU growth rate at 8.4%. For sparsely populated areas, Greece's FTTP coverage was 3.26% in 2024 lower than the EU's 58.78%. In terms of subscriptions, the share of fixed broadband subscriptions of at least 100 Mbps services stood at 34.85% in 2024, lower than the EU's (71.88%) but showing a growth rate of 18.1% outperforming the EU's 9.1%. In 2024, 0.00% of households in Greece had a fixed broadband subscription providing at least 1 Gbps, while the EU average was 22.25%.

Greece's overall 5G coverage stood at 99.80% in 2024 higher than the EU's 94.35%. For sparsely populated areas, Greece's 5G coverage was 99.29% in 2024, significantly higher than the EU's 79.57%. In the 3.4–3.8 GHz band, Greece's 5G coverage in 2023 was already higher than the EU average. In 2024, the data confirmed the speedy deployment of this band, which enables advanced applications requiring a wide spectrum bandwidth, with 72.94% coverage higher than the EU's 67.72%. For sparsely populated areas, Greece's 5G coverage in this band was 6.21% in 2023 and grew extremely fast to 41.01% in 2024, while the EU average remains at 26.19% representing an exceptional growth rate of 560.4% in 2024, while the EU's 65.1%.

Regarding 5G spectrum, Greece was one of the few Member States to have assigned the harmonised 5G pioneer spectrum to a level of 99.17% since 2021. In 2025, this is still considerably higher than the EU average of 74.63%.

VHCN and FTTP

Greece remains committed to its national target of reaching 100% gigabit connectivity coverage by 2030 and the country is on track according to its national trajectory. The KPI result in 2024 is even slightly above the forecast made by Greece for that year in its national trajectories for both VHCN and FTTP, although the latest figures show a growth rate of 19.9% in 2024 compared to the annual growth rate observed last year of 37.9%.

In 2024, the regulator for the electronic communication market in Greece (EETT) made several regulatory interventions to ease the speed up the deployment of FTTH networks (e.g. decision on monthly fee for co-location and interconnection services. Regulatory measures taken by the regulator are also encouraging the FTTH uptake by allowing volume discounts for the use of the regulated fibre network.

With the recent entry of new operators on the market and major investment plans from all operators, rapid progress in the roll-out of FTTH network is expected. The incumbent plans to deploy fibre to 3 million households by 2027 (1.7 million households are already passed by representing 36% of the market). The Greek Public Power Company (DEI) has started the deployment of its own wholesale network, aiming to provide access to VHCN to 1.7 million households by 2025, is making substantial progress with the deployment of its FTTH network and is starting to promote retail FTTH offerings (internet access only).

In terms of simplification by digitalisation, the procedure and management of optical fibres' rights information system (<u>e-Dieleysis</u>) is now operational and mandatory. Its purpose is to simplify and accelerate the licensing and monitoring processes for works related to the installation and maintenance of telecommunications infrastructure, reducing bureaucracy and delays. Furthermore, the automated approval process will be available to providers in second quarter of 2025, in the event of inaction by the relevant services following the approval deadline.

The copper switch-off plan in Greece is subject to a number of criteria increasing transparency and protecting access seekers and end users. EETT's data (as of 31/12/2024) indicate that more than 40 local exchanges, with more than 1 million subscribers, either fulfil or are very close to fulfilling the switch-off requirements.

In terms of addressing the digital divide, and due to the geographical challenges in Greece, the deployment of Fixed Wireless Access (FWA) is emerging as a bridging solution, and a strategic vehicle for socio-economic development.

Greece is undergoing a transformation into a major regional connectivity hub, with new submarine domestic and international interconnections, as well as new data centres, playing a key role in this process.

Greece continues to reinforce its digital infrastructure with the deployment of its submarine backbone infrastructure. The project 'High-speed Submarine Backbone for islands of the Aegean Sea' - <u>SEA-SPINE</u>, co-funded by CEF-Digital (the digital part of the Connecting Europe Facility), will cover overall 563 km of submarine segments and 231 km of terrestrial ones interconnecting 11 islands by 2026. It will substantially increase network capacity and reduce network latency for critical applications. It will also protect telecommunications traffic by creating alternative connections. In December 2024, the telecoms provider Sparkle was granted EUR 14.1 million under the <u>Connecting Europe Facility</u> programmes, to deploy the BlueMed East in the eastern Mediterranean connecting

Greece (Crete), Cyprus and Israel (Tel Aviv), strengthening connectivity in the India-Middle-East-Europe Economic Corridor.

Rapid development of data centres in Greece by private and public actors is expected to significantly improve Greece's digital infrastructure by 2030. It responds to the growing demand for cloud infrastructure and data storage. Various data centres are currently operational, in the stage of permitting or in the final stage of construction in Spata and Koropi (Attika). The recently built data centre in Heraklion is the largest one in Crete in terms of capacity and will be utilised by most telecommunications providers in the Greek and international markets as one of their central telecom nodes (PoPs). It will also serve as a strategic landing station for submarine cables. In December 2024, DEI/PPC announced the first phase of a project involving an investment of EUR 150 million for infrastructure with a capacity of 12.5MW, with the prospect of expanding to 25MW. The project is currently being planned and permitted, with construction expected to begin in the first quarter of 2025, and completion of the first phase within two years. One of the big tech companies also started building its first data centre, and plans to install 3 data centres in Greece, as part of the GRforGrowth initiative. It will provide cloud services to private and public organisations.

2024 recommendation on connectivity infrastructure: Closely monitor the progress on the gigabit coverage to identify early enough any remaining investment gaps to reach the target for 2030.

Greece has fully addressed the recommendation by putting significant policy actions into place in 2024. A new measure with a budget of EUR 80 million, partially funded by the RRF, was launched in November 2024. The 'Gigabit voucher' provides a voucher of 200 EUR for two years to an expected number of 400 000 beneficiaries. This measure complements a previously reported one, 'Smart Readiness' which subsidises costs required to create the necessary infrastructure in the buildings and is expected to accelerate convergence towards the digital target.

In 2026, monitoring of progress on gigabit coverage will continue to identify remaining gaps, since currently the deployment is at full speed, with emerging actors on the market.

5G

Greece's 5G target was already set at 100% in the initial roadmap submitted end 2023. Given the excellent latest figure for 2024, with 99.8% 5G coverage, the country is on track according to its national trajectory, even well ahead of its forecast for 2025 as presented in its initial roadmap.

This success is because Greece was one of the first Member States to auction all of its 5G pioneer bands in 2020. Licensing of the 5G bands was already completed by January 2021. Some 900 and 1 800 licenses will be expiring in 2027. The switch-off of 3G has been completed by all three national operators. 2G is still in play - EETT has not imposed any switch off obligations.

EETT is monitoring the coverage of broadband services and the use of spectrum in all licensed mobile bands, based on data reported by operators. Results of measures on mobile broadband QoS (quality of service) indicators to be assessed in major cities and main national roads will be available in the second quarter of 2025.

In Greece, data usage is growing rapidly. This indicates a shift in consumer behaviour towards increased use of data services, approaching 15 GB /month per active subscriber according to the Greek Mobile Operators Association.

2024 recommendation on connectivity infrastructure: 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.

Greece made some efforts to address the recommendation through new policy actions in 2024. The country is exploring the use of 5G network slicing for governmental purposes and evaluating the creation of 5G private networks across various verticals. This approach aims to unlock opportunities for SMEs while encouraging operators to accelerate the deployment of 5G standalone core networks.

In terms of use for radio spectrum licenses granted in 2020, in the frequency bands designated as pioneer 5G bands, 'Provision of Access to Vertical Market Enterprises' is included. In response to a request by an enterprise/entity operating in a vertical market, the radio frequency use rights holder shall negotiate with them in good faith regarding the provision of any type of access to its network (such as capacity leasing) or the leasing of frequencies. They must provide access on reasonable terms for their own use, subject to the rules protecting competition. To ensure this takes place as required, the EETT may also exercise its regulatory authority, as provided for in the applicable legislation.

Semiconductors

In the adjustment of its national roadmap, Greece did not report any additional developments regarding semiconductors. In 2024 public and private entities in Greece continued to implement cutting-edge projects related to research and development in semiconductors.

Edge nodes

According to the Edge nodes Observatory report, Greece is estimated to have 13 edge nodes by 2024, an increase on the seven estimated for 2023⁷. Greece emphasises that, in absence of direct survey inputs, this figure is based on extrapolated estimation generated through statistical modelling drawing on variables such as population, GDP, surface areas and investment data. It remains subject to updates as new data become available.

In the adjustment of its national roadmap, Greece did not report about additional developments to support the deployment of edge nodes across the country.

Quantum technologies

Greece continues to implement several strategic research projects included in the initial roadmap related to the development of quantum computing and quantum communication. The implementation of these projects is important for Greece, as the first national quantum strategy is under preparation. In particular, the Hellas QCI project (co-funded under the Digital Europe Programme), which runs from 2023, is positioning Greece at the forefront of quantum communications by developing a National Quantum Communication Infrastructure of a 650 km optical fibre network for secure telecommunications across Athens, Thessaloniki, and Heraklion (Crete) with Quantum Key Distribution (QKD) capabilities, that connect 13 governmental authorities and 6 academic and research institutions with the 3 Optical Ground Stations (OGSs) in Greece.

⁷ The estimation for 2023 has been revised since the publication of the SDDR24

In adjusting its national roadmap, Greece added two new projects related to the deployment of a **European Quantum Communication Infrastructure** (see below). Additionally, HellasQCI plans to expand via a terrestrial QKD link with Bulgaria and satellite-based connections with Cyprus, the Netherlands, Germany, Luxembourg, and Ireland to further enhance its cross-border integration.

2024 recommendation on semiconductors, quantum technologies, edge nodes: Develop additional measures in due time to accelerate the deployment of digital and data infrastructure and promote the use of digital capabilities and the access to digital technologies.

Greece has fully addressed this recommendation on quantum through new policy actions in 2024. Two additional projects reinforce the participation of HellasQCI in the broader EuroQCI Infrastructure. Greece is member of PETRUS, a project aiming at ensuring seamless integration of national QCIs into EuroQCI and reinforcing Europe's digital resilience. The NOSTRADAMUS project which started in 2024, aims to establish a robust environment for testing Quantum Key Distribution (QKD) and validate quantum-safe technologies before widespread development. For semiconductors, Greece continued the implementation of existing measures, but did not take any new measures. For edge nodes, Greece has not communicated any measure to address the recommendation.

Supporting EU-wide digital ecosystems and scaling up innovative enterprises

Greece shows relatively low levels of digital adoption of technologies among businesses, with the use of cloud computing, data analytics and artificial intelligence falling below EU averages. However, large enterprises consistently reported higher adoption rates than SMEs, although the gaps between these groups were generally smaller than the corresponding EU level gaps. The start-up ecosystem in Greece shows a positive trend with a growing number of new start-ups, and venture capital 15% up on last year.

SMEs with at least basic digital intensity

In 2024, over half (53.42%) of Greek SMEs had at least a basic level of digital intensity, significantly up from 41.21% in 2022⁸ and with an impressive annual growth rate of 13.9% (5 times more than the EU average annual growth). However, although this marked substantial progress, Greek SMEs' digital intensity remained considerably below the EU average of 72.91%. Moreover, looking at the SMEs with high or very high digital intensity, only 18.75% of SMEs reached such a level, well below the EU average of 32.66%.

Greece has not revised its national target initially set at 79.7% of enterprises having at least a basic level of digital intensity by 2030 (below the EU 2030 of 90%). The reason explained in the roadmap adjustment is linked to the characteristics of the Greek business ecosystem which has a particularly high share of solo and micro enterprises with less than 10 employees. Although they are not measured in the EU survey on ICT usage (the source for the KPIs on digital transformation of businesses), they are at the core of Greece's digitalisation strategy, also benefitting from the measures in place for the digital transformation of enterprises in the country. However, Greece further examined the implementation of the on-going flagship measures that contribute to this target, to monitor progress and potentially review the target.

⁸ DII performance and progress (due to DII composition: progress is calculated between 2022 and 2024)

In 2024, Greece continued to implement the flagship measure 'Digital Tools for SMEs Programmes' included in the initial roadmap and supported by the RRF. The first phase was completed in September 2024, with a budget of EUR 97 million. The total budget for the measure is EUR 135 million. The programme provided subsidies to 46 000 enterprises in Greece. However, almost 40% of the subsidies (EUR 38 million) was allocated to 38 000 micro enterprises (80% of the total participating companies), i.e. companies which are not included in the measurement of the Digital Decade KPI for SMEs with at least a basic level of digital intensity (10-249 employees).

2024 recommendation on digital transformation of businesses: Consider reinforcing the framework conditions to enable less digitally mature SMEs to adopt digital transition.

Greece made some efforts to address the recommendation through new policy actions in 2024. Two additional measures to enhance the creation and operation of new SMEs have been planned to start in 2027, part of the total budget estimate will be dedicated to enterprises integrating digital technologies.

In 2024, Greece was home to seven European Digital Innovation Hubs (EDIHs) in total, which are contributing to the strategy for uptake of digital technologies by businesses. Four of them, financed at a 50% rate by the Digital Europe Programme, are already operational, offering services such as digital maturity assessment diagnostics to a majority of micro and solo enterprises in the country. The EDIHs also offer services like 'Test before invest', allowing SMEs and public sector organisations to experiment with AI services and products and assess the potential of those before investing.



Take up of cloud/AI/data analytics

According to new data collected in 2024, 9.81% of enterprises in Greece were using AI technology in 2024, still behind the EU average of 13.48%. Nonetheless, AI uptake among Greek enterprises more than doubled compared to 2023 (3.98%). At the same time, in 2024, among SMEs, the uptake rate was 9.53%, while 1 out of 4 (24.27%) large enterprises adopted AI technologies. This led to a gap of 14.74 percentage points (pp) between SMEs and large enterprises, considerably lower than the EU gap of 28.53 pp.

Neither the adoption of cloud, data analytics nor the indicator showing the three technologies (AI, cloud and data analytics) have been measured in 2024.

According to the latest available data from 2023, cloud uptake among enterprises in Greece in 2023 stood at 18.07% (less than 1 out of 5), significantly below the EU average of 38.97%. Specifically, 17.57% of SMEs adopted cloud services, while uptake among large enterprises was significantly higher

at 46.56%. This reflects a difference of 28.99 percentage points between SMEs and large enterprises in Greece, lower than the EU level gap of 31.68.

Considering data analytics, 25% of enterprises in Greece adopted data analytics in 2023, falling behind the EU average of 33.25%. The uptake was lower among SMEs, where slightly less than 24.48% used data analytics, while more large enterprises used data analytics (54.91%). This resulted in a difference of 30.43 percentage points between SMEs and large enterprises, lower than the EU gap of 39.72 percentage points.

When measuring the three technologies together, in 2023, 33.52% of enterprises (1 out of 3) in Greece engaged with AI technologies, sophisticated or intermediate cloud computing services, or data analytics, showing a significant lag compared to the EU average of 54.7%. More specifically, the uptake among SMEs was slightly lower at 32.92%, while large enterprises showed a significantly higher adoption rate of 68.11%. This indicates a percentage point difference of 35.19 in uptake between SMEs and large enterprises in Greece, which is in line with the EU level difference.

• <u>Cloud</u>

Greece has not revised its national target initially set at 56% of enterprises using cloud services by 2030 (below the EU 2030 target at 75%) for the same reason mentioned above. In its roadmap adjustment, Greece does not present any additional measures specifically to foster the adoption of cloud. However, the broad measures to support the digital transition of SMEs include the uptake of advanced technologies such as AI, cloud, data analytics.

Data Analytics

Greece has not revised its national target (initially set at 40%) for enterprises using data analytics by 2030 (below the EU 2030 target at 75%). However, as the result of last year exceeded the projected forecast in the national trajectory, Greece is currently evaluating the trend for a potential revision of the target.

In its roadmap adjustment, Greece does not present any additional measures specifically to foster the use of data analytics. However, it is currently working on data governance and sharing practices in view of accelerating AI innovation. The broad measures to support the digital transition of SMEs include the use of advanced technologies such as AI, cloud, data analytics.

<u>Artificial Intelligence</u>

Greece has not revised its national target initially 32% of enterprises adopting AI by 2030 (below the EU 2030 target at 75%). The country is on track according to its national trajectory.

The adjustment of the roadmap includes major new initiatives for developing AI in Greece.

2024 recommendation on digital transformation of businesses: consider reinforcing the framework conditions to enable (i) all enterprises to benefit from the data economy by a rapid adoption of advanced technology (AI, cloud, data analytics) as a competitive advantage.

Greece made some efforts to address the recommendation through new policy actions in 2024. In November 2024, a high-level committee published a blueprint for Greece's AI transformation and will be the basis for the new AI strategy in preparation. This initiative aspires to establish Greece as a competitive force in the AI domain while balancing technological progress with ethical responsibility and societal well-being. It includes a special chapter on how AI can boost innovation and enhance the business ecosystem.

Greece will host one of the first AI Factories in Europe which will be the centre of the AI strategy. The 'Pharos' project will serve as a hub for academia, research, the public sector, and private enterprises, aiming to develop innovative AI-driven services. The project has a total budget of EUR 30 million, funded 50% by the EuroHPC Joint Undertaking and 50% by national resources. The project is scheduled to commence in March 2025, with a total duration of 36 months.

Strategic foresight research on the use of GenAI was published early 2024. It is accompanied by series of discussions and videos addressed to citizens and businesses to open the discussion and help understand the potential of using AI.

The 2025 Eurobarometer shows that 82% of respondents in Greece 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, in line with the EU average of 83%.

The Ministry of Digital Governance liaised with the <u>CISERO project</u>, launched in September 2024, in support of the IPCEI-CIS to ensure the wide-scale adoption and exploitation of the technologies developed under IPCEI-CIS. CISERO will facilitate collaboration between Member States, companies, research organisations, and public authorities to ensure investments made in cloud and edge infrastructures yield tangible benefits for Europe's digital future.

Unicorns, scale-ups and start-ups

At the beginning of 2025, Greece had three unicorns⁹ the same as in 2024. Greece had set a very ambitious national target of 20 unicorns by 2030 to contribute to the achievement of the EU target 2030.

In 2024, Greece's start-up' ecosystem continued to grow with sectors like AI and health tech among those most funded. The official platform built in 2020 by the Ministry of Development, <u>Elevate Greece</u>, acting as the national registry of start-ups, includes over 930 start-ups¹⁰ (up from 820 last year) in line with the objective of reaching 1 000 start-ups by the end of 2025. The country has the advantage of a highly skilled English-speaking workforce and an IT sector that is developing rapidly.

Greece had 16 venture capital (VC) funds active, in 2024 with an increase in investment of 15% compared to previous year. In the same time, the European ecosystem showed a slight drop of 5% according to the '<u>Startups in Greece, Venture financing report 2024-2025'</u>. But access to VC remains difficult, especially in early-stage funding, compared to other ecosystems in Europe.

⁹ Source: Dealroom (January 2025)

¹⁰ On 01/04/2025

The newly launched project for AI Factory in Greece will also provide AI-dedicated supercomputing services in support of the AI start-up and research ecosystem. It will provide large-scale training and development, trustworthy and ethical AI models and systems, and AI user communities for the development, validation and running of emerging AI applications. The AI Factory will also foster talent development. The newly created AI-Factory with a focus on health data utilisation, climate change mitigation, and fostering a Greek language model is fully part of the digital transformation strategy implemented by the government.

Other sectorial initiatives also promote the creation of start-ups in Greece, such as the European Space Agency's business incubator (ESA BIC Greece). This will contribute to a strategic ecosystem that will benefit Europe's sovereignty, with the ESA BIC being part of the world's largest space innovation network.

In terms of business environment, Greece introduced tax incentives for innovation and business transformation¹¹ in December 2024. As of 2025, enterprises will be able to deduct costs for R&D paid to start-ups or university research centres. Micro enterprises and SMEs will also be able to deduct costs for scientific and technological research under certain conditions. Investment incentives are also planned for angel investors, to foster innovation and start-ups creation.

Strengthening Cybersecurity & Resilience

In Greece, 2 out of 3 people have at least basic digital safety skills. 66.03% of individuals reported they had taken at least one action (see the six types of digital safety actions in the graph's legend) to protect their personal data online, just below the EU average of 69.55%. A relatively smaller share, 1 out of 3 (33.16%), took three or more such actions (and therefore could be considered to have above basic digital safety skills). The most frequent measure was refusing the use of personal data for advertising purposes, taken by 43.06%, while the least common was checking the security of websites where personal data was provided, reported by 22.84%.

Enterprises in Greece tend to experience more incidents related to cyberattacks in 2024. The percentage that experienced incidents leading to unavailability of ICT services due to attack from outside (e.g. ransomware, denial of services attacks) increased to 6.2%, compared to 5.6% in 2022. On average in the EU only 3.4% of enterprises reported they had experienced cybersecurity incidents, practically the same level as in 2022 (3.5%). But in terms of incidents leading to destruction or corruption of data (e.g. due to infection of malicious software or unauthorised intrusion, hardware or software failure), the enterprises in Greece reported fewer incidents (3.5%) than the EU average (5%). As regards countermeasures taken by enterprises, 71.8% of them deployed some cybersecurity measures



¹¹ Law 5162/2024

(lower than the EU average of 92.8%), but only 31.7% made their employees aware of their obligations regarding cybersecurity-related issues, significantly below the EU average (60%).

The adoption of new internet standards to ensure scalability, stability and security of the internet presents a mixed picture in Greece. By the third quarter of 2024, 53% of internet hosts in Greece had already deployed the latest version of the Internet's main communication Protocol version 6 (IPv6) for end users (significantly higher than the EU average 36%). Regarding protection for servers, at 24% Greece is also higher than the EU average 17%. However, the adoption of Domain Name System Security Extensions (DNSSEC) to protect the integrity of the Domain Name System (DNS) internet infrastructure (ensuring interoperability and the security of global cyberspace) is low in Greece - 19% compared to the EU average of 47%.

Greece transposed the NIS2 directive¹² **into national legislation on 28**th **of November 2024**¹³. In the coming months, several measures will continue to be deployed to facilitate the implementation of NIS2. The National Cybersecurity Authority (NCSA) established in 2024, as the supervisory authority for cybersecurity, is the NIS2 competent authority and single point of contact responsible for cybersecurity and for the supervisory tasks referred to in the Directive. In this context, it oversees the development, implementation and monitoring of the cybersecurity strategy which will be updated by the third quarter of 2025 to consider the new landscape of cybersecurity and better monitor the supply chain security. According to the Digital Decade Eurobarometer 2025, 88% of the respondents in Greece think that an improved cybersecurity, better protection of online data and safety of digital technologies would facilitate their daily use of digital technologies.

To address the cybersecurity skills shortage in the EU, Greece is leading on the creation of a Cybersecurity Skills Coalition in collaboration with other Member States to create a European digital infrastructure consortium (EDIC). The objective is to support the implementation of the Cybersecurity Skills Academy initiative¹⁴ and boost capacity building and resilience for public authorities, industries, and SMEs across EU Member States. Both EU and national resources—through co-financing by the Digital Europe Program and national funds—have already been allocated to cybersecurity skills development projects, such as CADMUS and AKADIMOS, which are currently under implementation.

¹² EE 2022/2555

¹³ Law 5160/2024

¹⁴ COM(2023) 207 final

Protecting and empowering EU people and society

Empowering people and bringing the digital transformation closer to their needs

In its digital transformation, Greece faces a challenge in developing digital skills for all which could slow down inclusion in the digital society. Significant gaps between different population segments can be observed. The lack of ICT specialists in employment also represents a barrier to digitalisation. Greece continues to actively implement its strategy of transformation for public services and businesses, although it is showing a slowdown in its annual progress rate. It has notably included AI technologies in the transformation of public services. According to the 2025 Eurobarometer, 88% of the respondents in Greece think that accessing public services online will be important for their daily life by 2030. The country also recently presented its strategy to protect minors online, for which the development of the Greek Wallet will play a role.

Equipping people with digital skills

Basic Digital Skills

According to data from 2023, only 52.40% of the population (age 16-74) in Greece had at least basic digital skills compared to the EU average of 55.56%, showing no progress since 2021. Despite the lack of new data collected in the EU in 2024, an analysis of different population groups provides interesting insights:

- **Gender Gap**: The gender gap in Greece is small, with 53.15% of men and 51.67% of women possessing at least basic digital skills. This gap of 1.48 percentage points is smaller than the EU average of 2.2 percentage points.
- Education Level: Those with higher education in Greece are doing well digitally, with 83.19% having at least basic digital skills, which is higher than the EU average of 79.83%. However, people with minimal formal education are much less digitally skilled, with just 20.14% having at least basic digital skills. Comparing with the national average, the resulting gap of 32.26 percentage points is wider than the EU average (21.95pp).
- Living Areas: In rural Greece, only 36.04% of residents have at least basic digital skills, falling below the EU average for rural areas (47.50%). The digital divide in Greece is significant, with a 16.36 percentage point gap between rural and national averages, which is much larger than what is seen across the EU (8.06pp).
- Age Groups: Greece's young adults aged 25 to 34 are digitally proficient, with 79.46% having basic digital skills, surpassing the EU average (70.18%). In contrast, only 12.84% of 65 to 74-year-olds have at least basic digital skills, considerably lower than the EU average in this age group (28.19%).

Digital Skills Index components: Out of the five components of the Digital Skills Index, Greece surpasses the EU average only on 'information and data literacy' skills. The highest score is seen in communication and collaboration skills (82.30%), but this is still below the EU average (89.33%). The lowest score is in digital content creation skills at 63.46%, also below the EU average (68.28%).

In summary, Greece shows a mixed picture in its population's digital skills, with some strengths observed in those with higher education and, overall, a smaller gender gap, proportionally. But significant challenges remain, especially a severe digital divide in terms of



education, with only 20.1% of people with a lower level of education having at least basic digital skills. A rural-urban divide, and an age-group divide are also observed.

Greece's target for the population share with at least basic digital skills is 70.2%, below the EU target 2030 (80%). In the adjustment of its roadmap, the target was not revised but additional action is included to help improve the situation and align the country with the Digital Decade objectives. The country also continues to implement the broad initiatives foreseen in the roadmap, notably the digital transformation of the education system. Enhancing basic digital skills for everyone is crucial for the Greek government. Many RRF investment measures will also enhance people's digital skills, with a large reform of the vocational and education system with a focus on digital and green skills.

2024 recommendation on digital skills: Review and consider whether additional targeted measures to train the population are sufficient to reach the target, boost the resilience of the economy and society and achieve inclusive growth.

Greece made some efforts to address this recommendation through new policy actions in 2024. Two additional measures for the 'development of digital content in schools', and for 'upgrading the digital information system for primary and secondary education' have been added in the roadmap. It aims to contribute to the digital reform of the education system by creating an open and innovative digital education model in Greece.

By integrating digital skills into school curricula and ensuring access to technology and the internet across both urban and rural areas, Greece aims to prepare its citizens for jobs in today's digital world. It's not just about learning to use technology, but also understanding how to find reliable information online and communicate effectively using digital tools. This includes teaching people how to use computers and the internet safely and effectively. Through collaboration with businesses and community organisations, the country strives to ensure that everyone, regardless of their location or background, can acquire these essential skills, thereby fostering economic growth and success in the digital society.

ICT specialists

Greece has 2.5% of ICT specialists in employment in 2024, significantly below the EU average (5.0%) with a similar growth rate to the EU's (4.2%). The country is lagging behind compared to its national trajectory. In 2023, the percentage of ICT specialists in total employment in Greece was 2.4%, compared to the EU's 4.8%.

The percentage of women ICT specialists in Greece (19.8%) in 2023 was slightly higher than the EU average (19.4%). However, by 2024, this figure had decreased to 16.0%, below the EU's 19.5%. This suggests that Greece is not effectively retaining or attracting female talent in digital career and ICT sector. In 2022, the percentage of enterprises employing 10 persons or more providing training in ICT in Greece was 13.44%, significantly lower than the EU's 22.37%. By 2024, this figure had slightly decreased to 13.27%, while the EU's percentage also decreased to 22.29%. Greece's annual growth rate of -0.6% for this metric is lower than the EU's -0.2%.

Greece's target for ICT specialists is 4.5%, below the 2030 EU target (10%). In the adjustment of its roadmap, Greece has not revised the target but has added additional measures to develop the pipeline of ICT talent. The roadmap adjustments also present a monitoring of other parameters that have an impact on the share of ICT professionals, such as ICT graduates and demand on the labour market.

In terms of demand from the labour market, Eurostat's experimental statistics based on web scraping show that in Greece, the profiles of 'software and applications developers and analysts' are the most sought after, representing 49.1% of online job advertisements for ICT specialists (58.0% at EU level). Two types of profile are significantly more in demand in Greece than in the EU in average: 'information and communications technology service managers' (7% of online job advertisements for ICT specialists; EU average 3.8%) and 'information and communications technology operations and user support technicians' (13% while the EU average is 10.4%). The profile of 'database and network professionals' (11.6% of online job ads) is also above the EU average (10.1%).

Increasing the number of ICT specialists remains admittedly one of the biggest challenges faced by Greece in its digital transition. The country has been confronted with an unprecedented 'brain drain' during the economic crisis, and finding and retaining talent is of particular importance while also fostering an entrepreneurial mindset through education and training. Greece set up the 'Rebrain Greece' initiative, a mechanism to give visibility to Greek talents abroad, who would have the high skills looked for by businesses in Greece, which include the ICT sector. The platform publishes highly specialised posts encoded by businesses in Greece using the European multilingual classification of Skills, Competences and Occupations (ESCO). Furthermore, official data from the Mechanism of Labour Market Diagnosis regarding ICT professionals indicate increasing demand for ICT professionals, with a prevalence for software and multimedia developers and analysts.

Primary and secondary education constitute a critical stage in motivating children towards obtaining an ICT degree. Therefore, enhancing digital skills of pupils as early as possible gives them a higher chance of becoming ICT professionals. To this end, the Ministry of Education, Religious Affairs and Sports, in cooperation with the Institute of Educational Policy, has launched a comprehensive package of measures aimed at enhancing digital skills for pupils in Greece and orientating them towards ICT-related degrees.

2024 recommendation on ICT specialists: Reinforce the strategy and the measures to increase the number of ICT specialists and retain the best talents.

Greece fully addressed the recommendation by putting significant policy actions into place in 2024. Greece added four additional measures to develop the pipeline of future ICT talents by giving children an early access to digital technology with (i) the project for Skills Workshops: robotics and STEM-supply of robotics and STEM equipment for kindergartens, primary and secondary schools to become familiar with programming and robotics. (ii) 'Competence Labs - 21+ Skills Workshops' which aim to develop skills necessary for the 21st century for students including STEM, entrepreneurship, creative thinking; (iii) digital library of teaching material for all levels; (iv) supply and installation of interactive learning systems in primary and secondary schools. Greece also added a measure aiming at having more ICT graduates with the Schools of Advanced Vocational Training (SAEK). Until 2024 there were no programme in Greece covering ISCED 5 (shortcycle tertiary education) - a 2-year adult post-secondary vocational education training (VET) that, among others, offers 9 professional graduate qualifications in ICT.

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

For digital public services for citizens, in 2024 Greece scores at 76.72, below the EU average of 82.32, with a growth rate of 1.1%, significantly lower than the EU's 3.6%. The country is on track according to its national trajectory. For cross-border digital public services for citizens, Greece scored 60.71 in 2024 below the EU's 71.28, with a growth rate of 3.7%, lower than the EU's 4.3%.

For digital public services for businesses, Greece's score in 2023 (86.20) was higher than the EU average (85.42), but it dropped to 78.64 in 2024, below the EU's 86.23. The country is on track according to its national trajectory. For cross-border digital public services for businesses, although Greece's score was 75.83 in 2023, it dropped to 62.5 in 2024, significantly lower than the EU's 73.76. This decrease is partially related to the introduction of new services related to the Single Digital Gateway regulation (SDGR) in the e-government survey in 2024, which were not yet found online. This lowered the average score of the KPI on digital public services for businesses. Additionally, some corrections have been made compared to last year's assessment, which have also had an impact on the average score. However, since 2021 constant and significant progress have been made in the digitalisation of public services progressively closing the gap with the EU average.

Regarding access to e-health records, Greece's score in 2024 remains the same as in 2023 (73.81). This is widening its gap to the EU average (82.70), which has grown by 4.5%. The country is on track according to its national trajectory. This lack of apparent progress can be explained by the fact that while there is ongoing activity in the background, it has not yet been implemented in full to allow conditions on the ground to change and to be factored into the score. This does not necessarily mean no change, just that these changes may not materialise until a future date.

In 2024, the percentage of people who had used the website or apps of Greek public authorities in the last 12 months (76.25%) remains above the EU average (74.71%).

e-ID

Greece has not yet notified the European Commission of an electronic identification scheme under the elDAS regulation. However, the country is currently issuing IDs for its citizens, which will include a unique 'personal number', planned to be the basis of the eIDAS scheme. By end of 2024, 1.5 million ID had been issued. Given that Greece has 6.5 million adult citizens, a system of automating the process and reducing the service time has been put into place by the Ministry of Digital Governance.

In its roadmap adjustment, Greece added one new measure to continue to upgrade and expand the Greek Gov.gr Wallet.

2024 recommendation on e-ID: Greece should notify to the Commission an e-ID scheme under the eIDAS Regulation

Greece made some efforts to address the recommendation through new policy action in 2024, however, the country has not yet notified the European Commission about an electronic identification scheme under eIDAS. A new e-ID infrastructure and the integration with Gov.gr Wallet and the new ID cards started in 2024 (budget EUR 15.8 million). The project aims to enhance the digital identification and authentication for citizens. New actions for digital services, documents and data standards will be needed for integration, facilitating the secure and efficient interaction between citizens and the state and private entities. The compliance with the European eIDAS 2.0 and EUDI Wallet standards is foreseen in the project which will run until 2026, but it is not clear under which e-ID scheme of assurance level high will be issued.

Greece and Cyprus are cooperating so that Cypriot identities and documents are recognised and identified in each country as equivalent to national documents. The country is working and planning to pre-notify in due time.

Greece is also participating (with ten public and private entities) in the consortium 'Advanced Project for Trusted Identity Technologies and Unified Digital Ecosystem' (APTITUDE), that will pilot the usage of EUDI Wallets. The project focuses on advancing the use of wallets in 4 use cases: payments, mobile vehicle registration certificates, digital travel credentials, and tickets and travel check-in. Led by France, APTITUDE will involve strong public and private engagement across 11 Member States and Ukraine, bringing together over 110 participating bodies. Greece is also participating in the consortium <u>WE BUILD</u> dedicated to deploying 13 high-impact use cases to develop production-ready solutions for the EU Digital Identity Wallet, and jointly led by Sweden and the Netherlands.

Digitalisation of public services for citizens and businesses

Greece still aims to reach a score of 100 for the digitalisation of public services for citizens and businesses, in line with the 2030 EU targets. In its roadmap adjustment Greece did not add additional measures, but it continued to implement the very broad strategy for digital transformation in the public sector and public services, including reforms and investments supported by the RRF. The Ministry of Digital governance continued to develop and add services on Gov.gr, the national portal for online public services with more than 2 100 services online by end of March 2025.

Greece is starting to use advanced digital technologies in the transformation of its public services. A European Digital Innovation Hub (EDIH) dedicated to the Digital Governance - GR digiGOV-innoHUB - is supporting the development of public services based on advanced digital technologies (AI, ML, IOT, Blockchain, HPC), while enabling SMEs and start-ups to pilot innovative solutions.

In early 2025, Greece launched a new digital platform to simplify the licensing process for businesses. The new system, OpenBusiness, is a vector for simplification relieving the administrative burden and reducing the costs and time involved in establishing and operating a business, thereby improving the services to business.

e-Health

Greece still aims to reach a score of 100 for access to medical records, in line with the 2030 EU target. Currently the country is implementing several projects to digitalise its health sector. In particular, the measure for the digital transformation of the health sector included in the initial roadmap, and funded by the RRF, is expected to contribute to the KPI by the end of 2025, with potentially effects on the measurement of the KPI in 2026.

According to the Digital Decade Eurobarometer 2025, 86% of the respondents in Greece 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.

In its roadmap adjustment, Greece added one measure with a budget of EUR 19.06 million (described below). Furthermore, the project 'National Electronic Health Record' (EHR) included in the initial roadmap shall be enriched with the pathology laboratories by the end of December 2024. It will also benefit from data coming from the new measure added in the roadmap adjustment and described below.

2024 recommendation on e-health: (i) Make the data types of medical imaging reports and medical images available to people through the online access service, (ii) Ensure that the online access service complies to web accessibility guidelines.

Greece has fully addressed the recommendation through new policy actions in 2024. Greece added a new measure for the 'Installation of RIS/PACS systems and transcription of medical acts and opinions in public hospitals and Primary Health Care (PHC) structures of the country'. Once implemented, the medical imaging reports and medical images will be available to doctors and citizens. The implementation plans to integrate 88 hospitals into the system by December 2024. And the last 22 hospitals by May 2025. Furthermore, a new data portal is being prepared to have the metadata of all available health data under the National Single Information Point of the Data Governance Act.

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

The data on online participation in political and civic life in Greece shows this has grown recently. In 2024, 28.37% of people used digital tools to participate in the democratic life, such as taking part in online consultations or voting on civic or political issues and expressing opinions on civic or political issues on websites or in social media. This share is much higher than the EU average (20.45%). It also shows a rapid trend upwards compared to 2022 (18.28%) which was slightly above the EU average (17.59%).

At the same time, the percentage of people encountering hostile and degrading online messages in Greece is significantly below the EU average. Data shows that in 2023, in Greece, 25.73% of individuals encountered such messages (based on factors such as religion, racial origin, or disability). This figure was significantly below the EU average of 33.5%. Young people (group age 16-24) reported higher exposure (39.03%) than adults in the group aged 25-64 (27.39%). In turn, men (26.07%) and women (25.40%) reported very similar exposure rates, indicating minimal gender-based variation.

Regarding disinformation, the percentage of people evaluating data, information and digital content is significantly lower than in the rest of the EU. In 2023, 34.55% of individuals in Greece stated that they had encountered untrue or doubtful information or content on internet news sites or social media, significantly lower than the EU average of 49.25%. Of those who reported coming across such

content, only 18.66% verified its truthfulness, suggesting relatively low engagement in verifying the reliability of information. Young people (age group 16-24) (41.58%) reported higher exposure than adults (age group 25-64) (37.77%), and their verification rates also differed slightly, at 25.49% for youth and 20.18% for adults. Males (35.77%) and females (33.36%) reported similar levels of exposure, with verification rates being almost equal, at 19.06% for males and 18.28% for females.

The 2023 data on online interactions in Greece reveals a relatively low prevalence of perceived hostile and degrading online messages, with rates below the EU average. Similarly, a lower-than-EU-average proportion of individuals in Greece encountered potentially misleading information online, although only a relatively small proportion of them verified its accuracy. Overall, these findings suggest that Greece presents a more positive picture in terms of online interactions compared to EU trends. Nevertheless, there is still room for improvement, and for continued efforts to promote digital literacy and critical thinking, to further enhance online engagement and information evaluation skills.

In the adjustment of its roadmap Greece presented the new national strategy 'Protecting minors from internet addiction' launched in March 2025. The strategy seeks to provide children and minors with a trustworthy online environment where they are given the same rights as everywhere else in their lives. It includes priorities addressing algorithmic addiction, educational and informational initiatives, and the development of protective measures and mechanisms for minors.

Alongside this strategy, Greece is preparing the launch of a 'Kids Wallet' to verify user's age and reinforce the protection of minors online. The app will determine the age of the child based on the Greek civil registry which represents a tighter security. This project is in line with the priority of the Commission to reinforce protection of minors online, included in its action for digital fairness.

In April 2024, the platform <u>stop-bullying.gov.gr</u> was launched for the prevention and response to violence at school. It enables incidents of domestic violence and bullying to be reported by parents or pupils. It is based on the law 'We live together in harmony - Breaking the silence'¹⁵ which provides regulations for the prevention and treatment of violence and bullying in schools.

According to the Digital Decade Eurobarometer 2025, people in Greece strongly think that the action of the public authorities is urgent to protect children online regarding the negative impact of social media on children's mental health (97% of respondents), cyberbullying and online harassment (96%) and to put in place age assurance mechanisms to restrict age-inappropriate content (97%).

In June 2024, to comply with the Digital Services Act (DSA), EETT issued a regulation on the operation of the registry of intermediary service providers. EETT, in its capacity as national Digital Services Coordinator, will handle the registry of all domestic providers (such as hosting providers, online platforms, and online search engines) which must be registered by October 2024.

¹⁵ Law 5029/2023 (A55)

Leveraging digital transformation for a smart greening

Greece is active in developing renewable energy to reduce the energy costs and with the objective of becoming self-sufficient. In 2024, renewables production (wind and solar) covered almost half of the country's electricity needs. Given the increasing energy consumption by digital infrastructure, such as data centres and the need to reduce the related environmental impact of the digital sector, Greece is taking some actions to address the environmental impact of digital transition and digital infrastructure. In particular, the government actively stimulates private investments in green data centres and edge computing. The Ministry of Digital Governance also launched an initiative with the Greek independent energy operator to create the first energy map for data centres to optimise the distribution of renewable energy.

The Ministry of Digital Governance is promoting efficient coding to reduce the energy consumption. It organised a workshop in 2024 on software quality assurance, with an environmental dimension to evaluate the programming results. Based on the decision on Green public Procurement in 2024, Greece issued recommendations for its public services. Furthermore, the General Secretariat of Information Systems and Digital Governance of the Ministry of Digital Governance (GSISDG) is preparing a set of guidelines for the efficient implementation of public services considering the computational power required for operations and, therefore, energy consumption requirements.

A national action plan for Green and Innovative public procurement has been prepared by the General Secretariat of Commerce of the Ministry of Development. In this regard specific guidelines have been produced for public sector bodies. According to the Digital Decade Eurobarometer 2025, 75% of the respondents in Greece consider digital technologies important to help fight climate change (slightly above the EU average of 74%). 82% answered that ensuring that digital technologies serve the green transition should be an important action for the public authorities, also above the EU average of 80%.

According to Eurostat, in 2024, in Greece, one person in four (25.44%) considered energy efficiency to be an important characteristic when buying ICT devices, while the EU average is only at 19.35%. The eco-design of the device is also more important for consumers in Greece (17.71%) than in the EU on average (12.04%). However, price remains by far the most important criteria for 68.78% of buyers in Greece well above these two eco-friendly criteria. In terms of recycling, people in Greece tend to recycle their old mobile or smartphone much more (24.63%) than the EU on average (10.93%). As regards enterprises' awareness and preparedness about the green aspects of their digital sector, half of those with 10 or more employees (50%) apply some measures, affecting the energy consumption of ICT equipment, while in the EU the average only 44.1%. Recycling of old equipment by enterprises is slightly lower in Greece (72.6%) than the average in the EU (77.4%).

In 2024, the national telecom regulator (EETT) published a <u>study on the sustainability of the ICT sector</u> <u>in Greece</u> with a focus on telecoms networks. Although the EETT's remit does not include the environmental sustainability of electronic communications networks and services, it follows the work of the BEREC working group on sustainability. And the study is part of EETT's actions to improve the development and competitiveness of the Greek market, while contributing to the goals of the European Green Deal (climate neutrality by 2050). The study examines the carbon footprint of ICT in

the Greek market, with a focus on telecoms networks, and provides suggestions on policy actions towards mitigating this.

2024 recommendation on green ICT: (i) Develop a coherent approach to twinning the digital and green transitions. First, promote improvements in energy and material efficiency of digital infrastructures, in particular datacentres. 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.

(ii) 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.

Greece has made some efforts to address the recommendation through new policy actions in 2024. Additional measures included in the adjustment of the roadmap help to better assess the impact of the ICT sector on energy consumption and propose solutions for the public sector in optimising its consumption, such as the development of an energy map of data centres; green procurement guidelines for public services, and optimisation of coding and use of information system (described above).

However, the roadmap adjustment does not display measures to support deployment of digital technologies for smart greening in additional sectors of the economy (e.g. transport, buildings, agriculture)

Annex I – National roadmap analysis

Greece's national Digital Decade strategic roadmap

Greece submitted adjustments to its national Digital Decade roadmap on 17th January 2025 with specific follow-up actions to the country recommendations made in 2024. It includes 16 additional measures and an in-depth analysis of the situation. The updates align with the new Commission's priorities on AI; deployment of submarine cables to increase the resilience of the backbone; joining forces in developing capacities in edge tech such as quantum, and on the protection of minors online. However, the adjustment lacks additional targeted support to address the current shortfall of ICT specialists in employment, while new measures to build a strong ICT talent pipeline have been included in the adjustment.

The roadmap's adjustment addresses a substantial number of recommendations issued in 2024:

Targets: consider in due time reviewing all the national targets that are not aligned with the EU's 20230 targets, and in particular the take up of cloud, data analytics and AI by enterprises, the target which is currently low on ambition.

- The adjustment presents a detailed analysis of the rationale for setting this national target. It will serve as a tool to track the progress of each indicator against the forecast, and eventually revise the targets which are currently low on ambition compared to the 2030 EU target.
- Greece also added two new measures planed for encouraging the creation and operation of SMEs, after the end of the current flagship's measures in 2027. The precise arrangements are still to be defined.
- On AI uptake: the new Greek AI-factory will create an ecosystem helping to develop innovative AI-driven services and play a crucial role in fostering the growth of and ongoing support for an innovative and competitive ecosystem of start-ups and SMEs.

Measures: review and reinforce the strategy and measures to contribute to the targets that are the most challenging to reach, such as digital infrastructure, ICT specialists.

- Digital infrastructure: Four new measures were added contributing to the strategy for digital infrastructure: (i) one measure to incentivise the take-up of fibre connection, adding to an existing measure for incentivising the development of the cabling to the house; (ii) a broad project of submarine cable to extend the fibre optic network to several islands; (iii) two new measures to support the deployment and testing of quantum communication infrastructure jointly with other Member States.
- ICT specialists: five measures to stimulate young people's eagerness for ICT technology and reinforce the pipeline of potential ICT students. No targeted measures to address the current lack of ICT specialists in employment has been added.

Measures: review and reinforce the strategy and measures to contribute to the targets that have a low level of ambition, the take-up of cloud, data analytics and AI by enterprises.

• The creation of the Greek AI factory and building of an ecosystem around it for harnessing AI's potential for growth.

Provide more information on the implementation of the digital rights and principles, including the national measures that contribute to it.

Greece has a new strategy for protecting minors online. It also launched a new online platform for the school community to report and stop bullying. Overall, a digital readiness principle applies for each piece of legislation.

The adjustment of the Greek national roadmap reinforces the already mostly complete roadmap submitted in 2023. Apart from additional policy and measures contributing to the target and objectives of the Digital Decade, the adjustment contains a detailed analysis of the national targets which were originally set below the EU's 2030 targets, based on which Greece decided not to revise the targets for digital skills, and for the digital transformation of businesses.

Additional measures were taken directly linked to the objective of the declaration on digital rights and principles, such as the strategy for protecting minors online.

After the publication of the country report 2024, the Ministry of Digital Governance organised several meetings and workshops specifically on the Digital Decade targets with the members of the 'core working group' of the Executive Network of Digital Transformation (ENDT), i.e. representatives of the organisations responsible for implementing most of the digital transformation activities, to validate and further specify the set of measures in the national roadmap.



Measures and budget in national roadmap¹⁶

Overall, the roadmap reflects a high ambition in terms of national targets, scope of measures and planned investments. The national roadmap includes **125** measures representing total public funding estimated at EUR 6.1 billion (about 2.57% of GDP) and an additional estimate of EUR 7 billion in private investments for the coming years in connectivity and data centres, for a total of EUR 13.1 billion. The adjustment of the roadmap with additional new initiatives in line with the national digital transformation strategy demonstrates the commitment to take action to reach the Digital Decade and objectives set in the roadmap. But there is still room to reinforce the range of measures in certain areas, to ensure that the targets are met by 2030.

¹⁶ 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.

Annex II – Factsheet on multi-country projects (MCPs) and funding

Multi-country projects and best practices

Greece is a member of the Alliance for Language Technologies EDIC and of the EUROPEUM EDIC on blockchain. Greece is also a candidate to host two EDICs in the making, in the area of connected public administration and cybersecurity skills. Greece is directly participating in the IPCEI on Microelectronics and Communication Technologies (IPCEI-ME/CT). Greece is also a participating state in the EuroHPC Joint Undertaking (JU) and the Chips JU.

Greece has contributed to the Best Practice Accelerator by sharing a best practice in the Digital Skills cluster with the title: 'Training Civil Servants in Cloud Computing Technologies'. The goal of this initiative is to enhance the cloud computing knowledge and digital literacy of civil servants, particularly executive managers in public administration and local government who have an ICT-related educational background. Greece also provided a best practice in the Uptake of Digital Technologies cluster sharing a best practice for the 'Greek Data Strategy and Interoperability'. This initiative was focusing on big data and reporting depending on different open datasets and initiatives from several organizations.

EU funding for digital policies in Greece

Greece allocates 21% of its total recovery and resilience plan to digital (EUR 7.4 billion)¹⁷. In addition, under cohesion policy, EUR 2.7 billion (representing 13% of the country's total cohesion policy funding), is dedicated to advancing Greece's digital transformation¹⁸. According to JRC estimates, EUR 8.2 billion directly contribute to achieving Digital Decade targets (of which EUR 6.5 billion comes from the RRF and EUR 1.7 billion from cohesion policy funding)¹⁹.

The largest investment from Greece's recovery and resilience plan (RRP) is dedicated to measures for digitalising the public sector and public services (EUR 2.18 billion), reinforced by support from the cohesion funds (EUR 370 million). In addition, investment to develop e-health records is also included in the RRP and the cohesion funds. The RRP also includes investment dedicated to measures supporting the development of digital skills and ICT specialists (EUR 755 million) with EUR 61 million from the cohesion policy.

¹⁷ 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.

¹⁸ 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.

¹⁹ 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 Principles²⁰



Activity on Digital Rights and Principles (figure 1)

Greece has been relatively active in implementing digital rights and principles, with 43 initiatives overall. No information is available on new initiatives launched in 2024. Greece is most active in the area of Digital education, training and skills (II). There is room for improvement, especially with regards to 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 Greece (mainly national government) and how these are perceived by citizens.

The indicators suggest that Greece is most successful in implementing commitments related to Sustainability (VI). Greece should review and strengthen efforts in areas where the impact of digital rights initiatives appears to be limited despite relative activity, notably on Participation in the digital public space (IV).

According to the Special Eurobarometer 'Digital Decade 2025', 30% of citizens in Greece think that the EU protects their digital rights well (a 3% decrease since 2024). This is below the EU average of 44%. Citizens are particularly confident about getting more freedom of expression and information online (47%, below the EU average of 60%). They are most worried that their right to a safe digital environment and content for children and young people is not well protected (65%, above the EU average of 48%).

²⁰ Based on a study to support the Monitoring of the Implementation of the Declaration on Digital Rights and Principles, available <u>here</u>. For a more detailed country factsheet accompanying the study, click <u>here</u>.