Digital Decade Country Report 2024:

Greece

Contents

Executive summary

Greece has scope to improve its performance to contribute to the European Union's (EU) Digital Decade objectives and targets, in view of a successful digitalisation that fosters competitiveness, resilience, sovereignty, European values and climate action.

In 2023, Greece made notable progress in rolling out Fibre to the Premises (FTTP) connectivity infrastructure, and digitalising public services. However, **important challenges** persist in the share of ICT specialists in employment and in the basic level of digital intensity of SMEs.

Although Greece still has a relatively low level of digital maturity, it has reversed the trend over the last 5 years. Greece's digital transition draws on a strong political commitment and an overall digital transformation strategy spanning 2020-2025. It started by focusing specifically on digitalising public services for people and businesses, and sustained efforts are yielding tangible results. Ongoing action is also directed towards digitalising other crucial public sectors such as education, justice, healthcare, and to economic sectors that still have great untapped potential. Overall, these initiatives, in line with the European Semester's country specific recommendations, benefited from funding under the Recovery and Resilience Facility at a crucial moment. However, since Greece started its digital transition late, some structural challenges are still pending. In particular, the lack of progress on digital skills of the population is a hurdle for digitalisation to steadily drive the country's competitiveness and prosperity, despite high investments in digital education and training.

According to the **special Eurobarometer survey 'Digital Decade 2024'**[1], 75% of respondents in Greece said that the digitalisation of daily public and private services makes their life easier, slightly above the EU average of 73%.

Greece is very active in collaborating at EU level. Greece is a member of the Alliance for Language Technologies EDIC (ALT-EDIC) and of the EUROPEUM-EDIC on blockchain (both already set up). Greece is expected to be the hosting Member State of the possible future Connected Public Administration EDIC and of the possible future Cybersecurity Skills Academy EDIC. Greece is developing the Statute and other relevant documents of the possible future Genome EDIC, within an informal working group. It is also engaging in discussions on the setup of possible future Cancer Image Europe (EUCAIM) EDIC, within an informal working group[2]. Greece also participates in the IPCEI Microelectronics and Communication Technology (ME/CT) and in the EU Digital Wallet consortia: POTENTIAL, EWC, DC4EU.

Greece's Recovery and Resilience Plan (RRP) allocates 22.1% of its total budget to the digital transition (EUR 7.78 billion)[3] with a strong priority on the transformation of the public administration and on digitising the economy, particularly SMEs. It is also investing significantly in increasing the digital skills of the population. Under Cohesion Policy, an additional EUR 2.7 billion (13% of the country's total Cohesion Policy funding) is allocated to the country's digital transformation[4].

[1] Special Eurobarometer 551 on 'the Digital Decade' 2024: https://digital-strategy.ec.europa.eu/en/news-redirect/833351
[2] Information last updated on 31 May 2024.
[3] The share of financial allocations that contribute to digital objectives has been calculated using Annex VII to the Recovery and Resilience Facility Regulation.
[4] 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.

Digital Decade KPI [1]	Greece			EU		Digital Decade target by 2030	
	DESI 2023	DESI 2024	Annual progress	DESI 2024 (year 2023)	Annual progress	**EL**	**EU**
Fixed Very High-Capacity Network (VHCN)	27.9%	38.4%	37.9%	78.8%	7.4%	100%	100%
Fibre to the Premises (FTTP) coverage	27.9%	38.4%	37.9%	64.0%	13.5%	100%	-
Overall 5G coverage	85.7%	98.1%	14.5%	89.3%	9.8%	100%	100%
Semiconductors		NA					
Edge Nodes		12		1 186		95	10 000
SMEs with at least a basic level of digital intensity	37.7%	43.3%	7.2%	57.7%	2.6%	79.7%	90%
Cloud	15.2%	18.1%	9.1%	38.9%	7.0%	56%	75%
Artificial Intelligence	2.6%	4.0%	24.0%	8.0%	2.6%	32%	75%
Data analytics	NA	25.0%	NA	33.2%	NA	40%	75%
AI or Cloud or Data analytics	NA	33.5%	NA	54.6%	NA		75%
Unicorns		3		263		20	500
At least basic digital skills	52.5%	52.4%	-0.1%	55.6%	1.5%	70.2%	80%
ICT specialists	2.5%	2.4%	-4.0%	4.8%	4.3%	4.5%	~10%
e ID scheme notification		No					
Digital public services for citizens	64.6	75.9	17.5%	79.4	3.1%	98.2	100
Digital public services for businesses	73.7	86.2	17.0%	85.4	2.0%	100	100
Access to e-Health records	60.7	73.8	21.6%	79.1	10.6%	100	100

[1] See the methodological note for the description of the indicators and other descriptive metrics

National digital decade strategic roadmap

With respect to **Greece's** contribution to the Digital Decade reflected in its roadmap, it is demonstrating a **very high ambition** and, based on this document, intends to allocate **significant effort** to achieve the Digital Decade objectives and targets.

The roadmap is mostly complete and presents 14 national trajectories and targets to be achieved by 2030. The national targets set for connectivity, digital transformation of public services and e-health match the EU's 2030 targets, but the targets for digital skills and for the digital transformation of businesses are below the EU's 2030 targets. The roadmap contains a detailed analysis of the current state of play, and a comprehensive set of measures and initiatives designed to meet the objectives and targets of the Digital Decade to transform the country into a digitally advanced and inclusive society by 2030. It is based on the Digital Transformation Bible 2020-2025, the country's current national digital strategy. Funding for the digital transformation relies heavily on EU funds (RRF and cohesion policy funding).

The total public funding for the 104 measures in the roadmap is estimated at EUR 5 230.2 million (about 2.37% of GDP). The priorities are on the digital transformation of the public sector including the health sector, the digital transformation of the economy, and the uptake of advanced digital technologies by businesses. The roadmap also gives a rough estimate of private investments for the coming years in data centres and gigabit connectivity of EUR 6 900 million.

Recommendations for the roadmap

When adjusting the roadmap in accordance with Article 8(3) of the Digital Decade Policy Programme (DDPP) Decision, Greece should:

- **TARGETS:** Consider in due time reviewing all the national targets that are not aligned with the EU's 2030 targets, and in particular **the take up of cloud, data analytics and AI** by enterprises, the target for which is currently low on ambition**.**
- **MEASURES:** Review and reinforce the strategy and measures to contribute to the targets (i) that are the most challenging to reach, such as **digital infrastructure**, **ICT specialists;** and (ii) that have a low level of ambition, the **take up of cloud, data analytics and AI by enterprises.** Provide additional details on how existing and planned measures for the digitalisation of SMEs will contribute to reaching the target for 2030; (iii) Provide **more information on the implementation of digital rights and principles**, including the national measures that contribute to it.

Digital rights and principles

The Special Eurobarometer 'Digital Decade 2024' provides insights into Greeks' perceptions of digital rights. Only 33% of Greeks believe that the EU protects their digital rights well, although this figure has increased by 1 point since last year, it remains significantly below the EU average of 47%. Concerns are escalating, with 62% worried about children's online safety, up 2 points, and 51% about control over personal data, while overall respondents seem to be more worried about their digital rights and principles than the EU average. On a positive note, 85% of respondents value digital technologies for connecting with friends and family, which is above the EU average of 83%. The monitoring of the Declaration on Digital Rights and Principles shows that increasing the profile of the Declaration at national level and fostering better stakeholder engagement could help improve outcomes in the years to come[5].

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

With significant support from EU funds, Greece is taking action to start upgrading its digital and research infrastructure and to develop ecosystems for innovation in cutting-edge technologies, which are currently in their infancy. The country still faces several challenges. It lags behind on the deployment of fibre networks to deliver gigabit connectivity for all, although its National Broadband Plan 2021-2027 is starting to bear fruit. Moreover, all the indicators on the digitalisation of enterprises indicate a below EU average performance. Many SMEs have a relatively moderate level of innovation and a low level of digital maturity. In 2023, only 43.3% of SMEs had at least a basic level of digital intensity, below the EU average (57.7%). Businesses in Greece also have a low level of take up of advanced technologies such as AI, cloud, and data analytics in general. However, the dynamic start-up ecosystem is a positive sign of a digital ecosystem in development.

[5] See SWD 'Digital Decade in 2024: Implementation and perspective' with annexes, SWD(2024)260: https://digital-strategy.ec.europa.eu/en/news-redirect/833325, Annex 4.

Recommendations – Greece should:

- **CONNECTIVITY INFRASTRUCTURE:** (i) closely monitor the progress on the gigabit coverage to identify early enough any remaining investment gaps to reach the target for 2030; (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.
- **CYBERSECURITY:** Continue the implementation of the 5G Cybersecurity Toolbox to ensure secure and resilient 5G networks.
- **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.
- **DIGITAL TRANSFORMATION OF BUSINESSES**: Consider reinforcing the framework conditions to enable (i) less digitally mature SMEs to adopt digital transition; and (ii) all enterprises to benefit from the data economy by a rapid adoption of advanced technology (AI, cloud, data analytics) as a competitive advantage; (iii) 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 coordinators and the Member States participating in the IPCEI-CIS.

Protecting and empowering EU people and society

The concerted efforts made on digital transformation in recent years have resulted in a demonstrable and significant improvement in the public digital services available to citizens and businesses. This is expected to make a significant contribution to the country's resilience and competitiveness. However, in terms of empowering people to benefit from opportunities created by an increasingly digitalised society and economy, Greece has not yet met the challenge of training its population in the level of digital skills needed, despite several recent measures, investments and reforms. In 2023, only 52.4% of the population had at least basic digital skills (EU average 55.5%), indicating no progress since the previous data collection in 2021. The number of ICT specialists in terms of the share of employment is 2.4%, far below the EU average (4.8%). However, in 2023, information technology was reported to be the business sector in Greece with the highest score on intention to hire new professionals, with employment prospects reaching 27%.

Recommendations – Greece should:

- **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.
- **ICT SPECIALISTS**: Reinforce the strategy and the measures to increase the number of ICT specialists and retain the best talents.
- **e-ID**: Greece should notify to the Commission an e-ID scheme under the eIDAS Regulation.
- **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.

Leveraging digital transformation for a smart greening

Greece national roadmap mentions some measures related to the green transition in addition to the measures related to establishing more sustainable, energy- and resource-efficient digital infrastructure and technologies (e.g., sovereign cloud, edge nodes and 5G infrastructure). Greece also set goals in its national energy and climate plan and in the RRP for which digital technologies can be used as smart agents to trigger the green transition (e.g., smart meters). In 2023, a programme supported by cohesion policy funding has been launched for the 'green transformation of SMEs' to support projects aiming at developing and using modern technologies to upgrade their products, services and processes in terms of energy upgrading, the circular economy and the adoption of clean energy sources. However, a more comprehensive approach to make the digital sector more environmentally friendly and sustainable is missing. According to the Eurobarometer 2024 survey, 86% of respondents in Greece said that ensuring that digital technologies serve the green transition should be an important action for public authorities (above the EU average of 81%). In this regard the Data Centre that is operated by the General Secretariat of Information Systems and Digital Governance of the Ministry of Digital Governance has adopted and implemented the European Code of Conduct for Energy Efficiency in Data Centres.

Recommendations - Greece should:

- Develop a coherent approach to twinning the digital and green transitions. First, promote improvements in energy and material efficiency of digital infrastructure, 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.

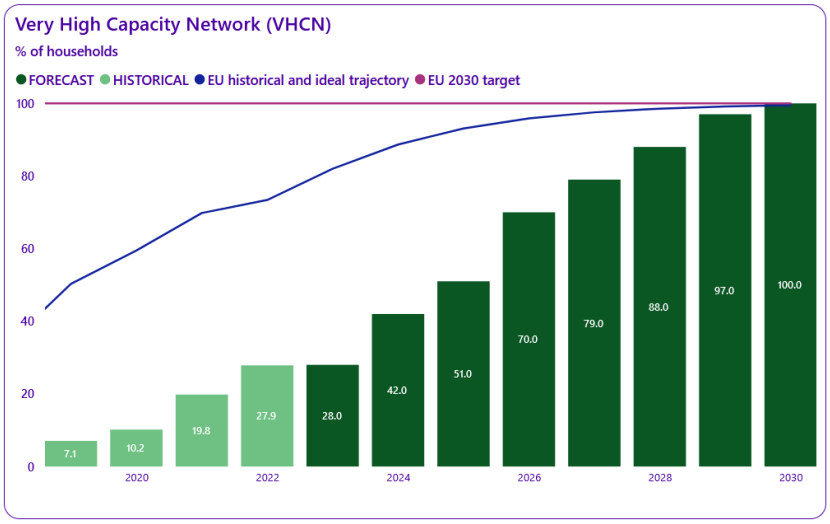
A competitive, sovereign and resilient EU based on technological leadership

Greece is focusing increasingly on the digital transition of the economy, while facing several challenges on its path to competitiveness and technological leadership. In 2020, the ICT sector accounted for 3.23% of Greece's GDP (EU average is 5.23%). The prolongated financial crises restrained public and private investments. With significant support from EU funds, Greece is carrying out several initiatives, reforms and investments, to upgrade its digital and research infrastructure and create ecosystems for innovation in cutting-edge technologies. The objective is to enhance the digital transformation of the economy to boost the country's competitiveness and resilience. The dynamic start-up ecosystem is a positive sign of a digital ecosystem in development. Over the last 12 months, Greece also tackled the pressing need to step up action to protect public institutions and businesses from cyberthreats with the creation the National Cybersecurity Authority as a separate public law body.

Building technological leadership: digital infrastructure and technologies

Greece lags behind on the deployment of fibre networks to provide gigabit connectivity for all. However, the National Broadband Plan 2021-2027 is starting to bear fruit, achieving a 10-percentage point increase in VHCN/FTTP coverage over the past year. Current market trends, with new fibre operators, will also contribute to reinforce this positive trend over the coming years. Broad investments projects to deploy fibre (100 Mbps, readily upgradeable to 1 Gbps) started in 2023 to cover the white areas, and measures were also launched in 2023 to provide for in-building cables.

Connectivity infrastructure (Gigabit)



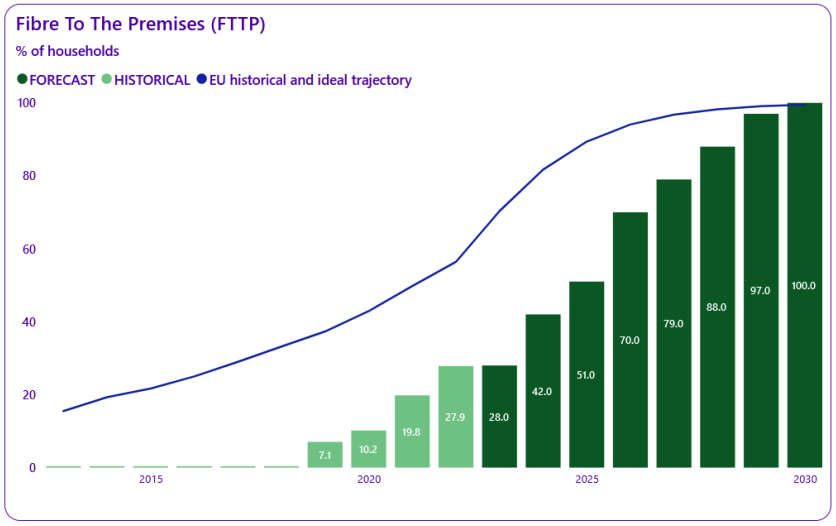
2023 state of play and recent progress

	Country level	EU level
FORECAST	28.0	82.0
DESI 2024	38.4	78.8
AVERAGE ANNUAL GROWTH %	37.9	7.4

Average, annual growth is computed between the two most recent available data points

Note: The source of national forecast values is the 2023 country roadmap

Greece



2023 state of play and recent progress

	Country level	EU level
FORECAST	28.0	70.3
DESI 2024	38.4	64.0
AVERAGE ANNUAL GROWTH %	37.9	13.5

Average, annual growth is computed between the two most recent available data points

Note: The source of national forecast values is the 2023 country roadmap

Greece has scope to improve its performance to contribute to the EU's Digital Decade target with 38.4% of households' coverage for very high-capacity network (VHCN) which in Greece is Fibre to the Premises (FTTP) in the absence of coaxial networks. Although the recent annual growth for VHCN (37.9%) demonstrates a very strong dynamic compared to the EU average annual growth (7.4%), current coverage in Greece at 38.4% remains far below the EU average of 78.8% for VHCN and 64% for FTTP. On a different perspective, looking at broadband coverage by speed, in 2023 60.7% of Greek households have access to a broadband speed above 100 Mbps. However, the share of fixed broadband subscriptions of at least 100 Mbps services (29.5%) is significantly below the EU average (65.9%), while 0.0% of households had a broadband service providing at least 1 Gbps.

Greece's roadmap sets out the aim to reach 100% gigabit connectivity coverage by 2030, in line with the EU target. The trajectory pursues a high level of ambition, considering the current level of coverage and the lag behind the EU average. To reach its national targets by 2030 would require making substantial investments to maintain a high level of annual growth over the coming years.

In 2023, Greece carried out a detailed mapping exercise for private investment plans 2023-2027. The data collected are still being evaluated by the Ministry of Digital Governance and the NRA to identify remaining investment gaps. Over the last 12 months two new operators entered the Greek market for fibre deployment and two significant projects supported by the Recovery and Resilience Facility (RRF) and the European Regional Development Fund (ERDF) have started.

A very large project started to deploy fibre infrastructure. The 'Ultra-Fast Broadband' project will contribute to the deployment of fibre infrastructure in semi-urban and rural areas. Overall, it will cover 830 000 households and businesses (18% of the country) in areas that were not covered by the private investment plans by 2025. The total amount is EUR 870 million, with EUR 265 million from the EU structural funds.

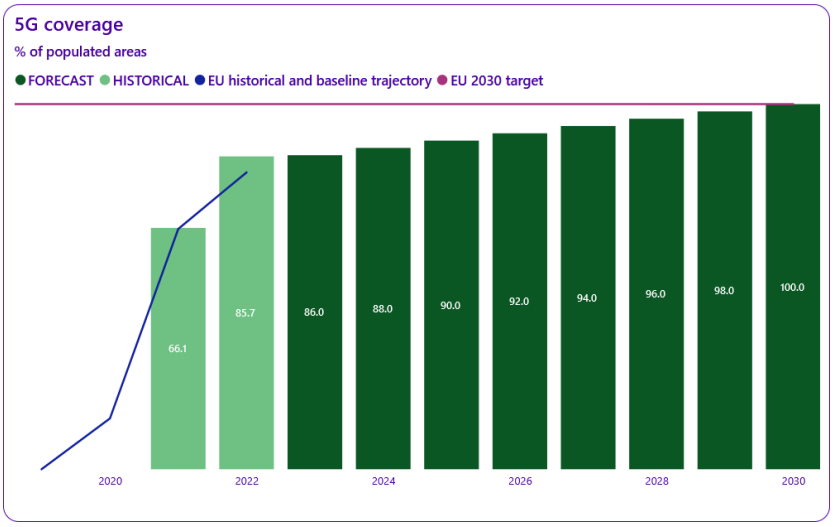
Another major project launched in 2023 is the 'Smart readiness' programme to provide fibre infrastructure in buildings (in-building cabling) and up to the termination point. Funded by the RRP, the target is to connect 120 000 buildings by end of 2025 (budget EUR 100 million). In December 2023, a joint ministerial decision[6] was published, including technical specifications for FTTH in-building work, which should facilitate the installation work. In 2023, broadband take-up of at least 1 Gbps in

[6] 53538 ΕΞ 2023

percentage of households remains very low (less than 0.1% of households), although Greece's current observed growth rate of coverage is noticeable. In its roadmap Greece envisages additional action to stimulate the demand.

Greece has a geo-strategic location in South-East Europe and is key to a resilient and secure EU connectivity. In the framework of the Connecting Europe Facility (CEF) Digital, the EU will co-finance the project 'High-speed Submarine Backbone for islands of the Aegean Sea' to build a new submarine backbone infrastructure to provide high-capacity connectivity infrastructure to digitally under-served Greek islands in the Mediterranean. It will also contribute to increasing traffic protection through link redundancy and multiple path-based impact mitigation in the event of link failures, in line with the objectives of the EU Digital Global Gateway Strategy.

Connectivity infrastructure (5G)



2023 state of play and recent progress

	Country level	EU level
FORECAST	86.0	
DESI 2024	98.1	89.3
AVERAGE ANNUAL GROWTH %	14.5	9.8

Average, annual growth is computed between the two most recent available data points. No ideal trajectory, and therefore no EU level forecast, is provided for 5G (see 2023 Communication on EU-level trajectories)

Note: The source of national forecast values is the 2023 country roadmap

Greece brings a positive contribution to the EU's Digital Decade target on 5G coverage and demonstrates a positive dynamic. In 2023, 5G coverage in Greece (98.1%) was well above the EU average (89.3%) with an annual growth of 14.5%. 58.8% of populated areas in Greece are covered by the 3.4-3.8 GHz band, which enables advanced applications requiring a wide spectrum bandwidth, above the EU average (50.6%). Furthermore, in rural areas, 5G coverage reached 92.1%, far above the EU average (73.1%), and a remarkable increase on the previous year, when rural 5G coverage was 57.8%. However, overall mobile broadband take-up in Greece is 83.5% below the EU average (89.9%).

Greece's roadmap also includes the aim to reach 100% of 5G coverage by 2030, aligned with the EU target. The trajectory pursues a high level of ambition and given the sustained level of growth recorded recently, Greece's contribution to the EU target will continue to be significant.

On mobile networks, three operators are actively deploying 5G coverage, well above the minimum coverage planned into the 5G licenses. Greece was one of the first countries in the EU to make available all the relevant spectrum 5G bands.

A Connecting Europe Facility (CEF) Digital project started on 1 January 2024, for 5G Infrastructure and Services for public interest and social inclusion in Greece. The 5G-TERRA project will provide high-quality, leading-edge 5G connectivity to end users of remote and sparsely populated areas in Greece to enable efficient, state-of-the-art Services of General Interest (SGIs) in the sectors of healthcare, education, and civil protection.

In terms of ex-ante regulation in Greece, the Greek regulator was asked to implement the obligations imposed on the provider designated as having significant market power without delay[7].

Semiconductors

Greece does not have yet a vibrant ecosystem of semiconductor technology, although entities from both the private and public sectors are participating in several cutting-edge projects. In 2023, a call for applications, funded by the RRF, was published for participation in the European Key Digital Technologies Joint Undertaking (KDT-JU), which included semiconductor technologies. The Foundation for research and technology Hellas (FORTH) participates in a series of projects with a budget of EUR 19.1 million funded by the European High Performance Computing Joint Undertaking (EuroHPC JU).

Greece participates in the IPCEI Microelectronics and Communication Technology (ME/CT) approved in 2023 to create innovative microelectronics and communication solutions. The projects will contribute to technological advances in many areas, including communications (5G and 6G), autonomous driving, artificial intelligence, and quantum computing.

Under the Chips Act, Greece set up a Semiconductor Expert Group to map companies in the semiconductor value chain on the national market. 63 companies working at various stages in the semiconductor value chain, responded to the mapping exercise, of which nine are considered as large enterprises.

The roadmap also mentions a private sector initiative to mobilise public and private sector funds to develop an ecosystem for innovation in integrated circuits in the coming years in Greece. HETiA is an alliance of 47 industrial members and 28 universities and research institutes in Greece promoting digital technology proliferation and entrepreneurship in emerging technology domains. The first action planned by HETiA is to set up a competence centre for microcircuits to provide a design platform for integrated circuits and training to develop talent to support the ecosystem.

Edge nodes

The Edge Observatory's first data report has estimated the number of edge nodes deployed in 2023 in Greece to 12. The total estimation for the EU is 1186. The national roadmap of Greece presents a target value for Greece of 95 edge nodes in line with the **estimation** done by the Edge Observatory of 92 edge nodes in Greece by 2030.

In 2023, public sector and industry players in Greece are mainly at the testing and piloting phase regarding edge nodes. In its roadmap, Greece plans to perform a needs analysis and to develop actions to support the deployment of climate-neutral highly secured edge nodes in 2024-2025. The results should play a significant role in their deployment by providing the required data and scientific basis to ensure optimum distribution and performance.

Quantum technologies

The Institute of Quantum Computing and Quantum Technology was established in 2023 in the National Centre for Scientific Research NCSR Demokritos. It aims to apply research to a wide range of industry sectors (e.g., energy, telecommunication, shipping, and biotechnology) to spur economic development through research activities. It also offers graduate-school programmes in quantum technologies.

[7] EL/2024/2492

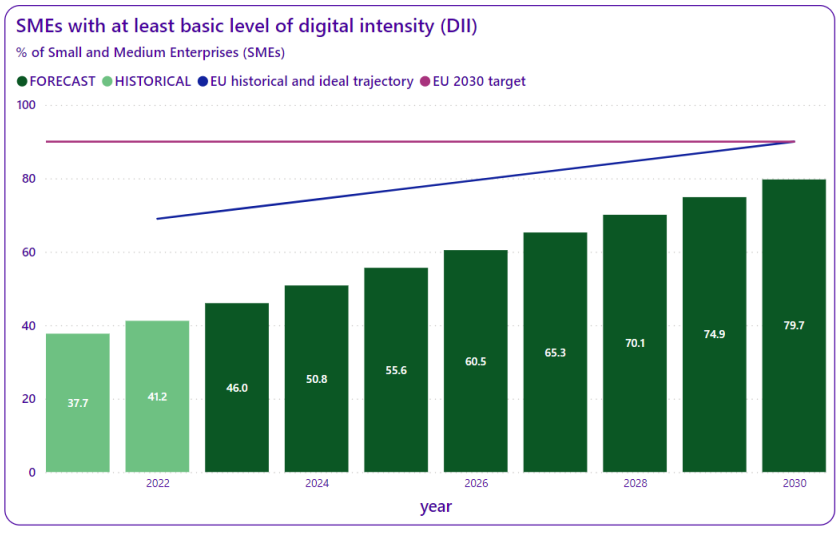
An estimated EUR 48 million in public investment will contribute to the target on quantum computing, with the most important developments being HellasQCI and DAEDALUS HPC. The national Greek QCI (HellasQCI) aims to boost the resilience of critical infrastructure in Greece. The national HPC (DAEDALUS) and ARIS HPC will contribute to the development of a world class supercomputing ecosystem in Europe. Greece is member of the EuroQCI and an important player in the co-creation of the EuroQCI as one of the few countries on south-east of Europe having Optical Ground Station (OGS) systems for satellite quantum key distribution (QKD). DAEDALUS will be a mid-range supercomputer, able to perform more than 30 petaflops or 30 million billion calculations per second with a large part of its performance devoted to accelerators. It can and will support AI (Artificial Intelligence) - ML (Machine Learning) applications. This new supercomputer will be managed and operated by GRNET (the National Infrastructures for Research and Technology S.A.) and installed at the historical 19th century Electric Power Station building in Lavrion Technological and Cultural Park of the National Technical University of Athens.

HellasQCI also has the objective to create a community from all national stakeholders, collect expertise and share knowhow on the application of quantum technologies to actively contribute to the EU's technological sovereignty.

Supporting EU-wide digital ecosystems and scaling up innovative enterprises

Greece lags behind on the digital transformation of enterprises, with many SMEs having relatively moderate levels of innovation and a low level of digital maturity. It also has a low uptake of advanced technologies such as AI, cloud and data analytics by enterprises in general, but a dynamic start-up ecosystem. In 2023, Greece continued its action, in both the public and private sectors, to support the development of competitive digital ecosystems and innovative businesses, recognising the critical role of digital technologies in the survival and viability of enterprises, in particular SMEs.

SMEs with at least basic digital intensity



2023 state of play and recent progress

	Country level	EU level
FORECAST	46.0	71.6
DESI 2024	43.3	57.7
AVERAGE ANNUAL GROWTH %	7.2	2.6

In the case of DII, the average, annual growth is computed between 2023 and 2021 due to data comparability reasons.

Note 1: DII 2022 is version IV that is not comparable with DII 2021, that was version III. The EU-level ideal trajectory refers to DII version IV, as published in the 2023 Communication on EU-level trajectories

Note 2: The source of national forecast values is the 2023 country roadmap

Greece has scope to improve its performance to contribute to the EU's Digital Decade target on digitalisation of SMEs while showing a very strong dynamic. In 2023, with 43.3% of SMEs having at least a basic level of digital intensity, Greece performs below the EU average (57.7%). Nevertheless, it

recorded an average annual growth of 7.2% since 2021, the last comparable year in terms of methodology for measuring the basic level of digital intensity of SMEs. This is more than two and a half times the average annual growth rate in the EU (2.6%), which demonstrates an upward trend.

In its roadmap, Greece aims to reach 79.7% of SMEs with at least a basic level of digital intensity by 2030 below the EU target (of 90%). Based on the current situation and recent average annual growth although the national target would not represent a significant contribution to the EU target 2030, it can be explained by the structural and economic challenges faced by enterprises in Greece.

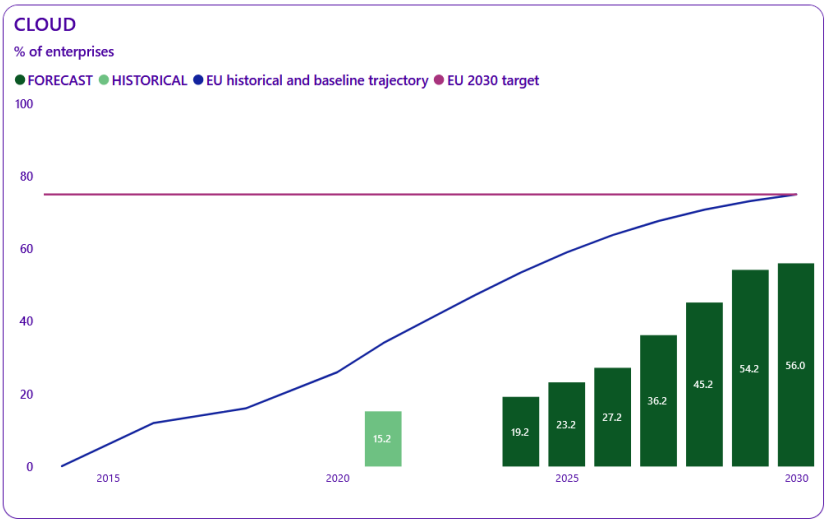
In 2023, Greece continued to implement the main programme for digital transformation of SMEs under the RRF. The goal is to increase the digital maturity of the country's small and medium enterprises (SMEs), by modernising their production, commercial and administrative functions, and supporting them in the purchase and use of digital products and services.

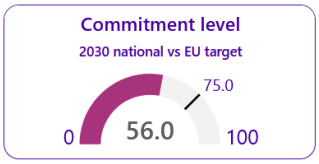
In the private sector, the Hellenic Federation of Enterprises (SEV) is very active in supporting enterprises in all sectors and all sizes in their digital transformation. The SEV offers its members schemes to develop a digital mindset and help Greek enterprises integrate digital tools and new technologies into their operation and management processes. The SEV works with the public authorities to provide feed-back on the needs and challenges faced by enterprises in order to design instruments adapted to the different level of digital maturity of enterprises.

Greece has also become attractive for investment and initiatives from very big international tech companies, and this will contribute to the digital transformation of the economy. In 2023, a project was announced to transform the Elefsina shipyard into Greece's first smart shipyard.

Take up of cloud/AI/data analytics

- **Cloud**





2023 state of play and recent progress

	Country level	EU level
FORECAST		47.3
DESI 2024	18.1	38.9
AVERAGE ANNUAL GROWTH %	9.1	7.0

Average, annual growth is computed between the two most recent available data points

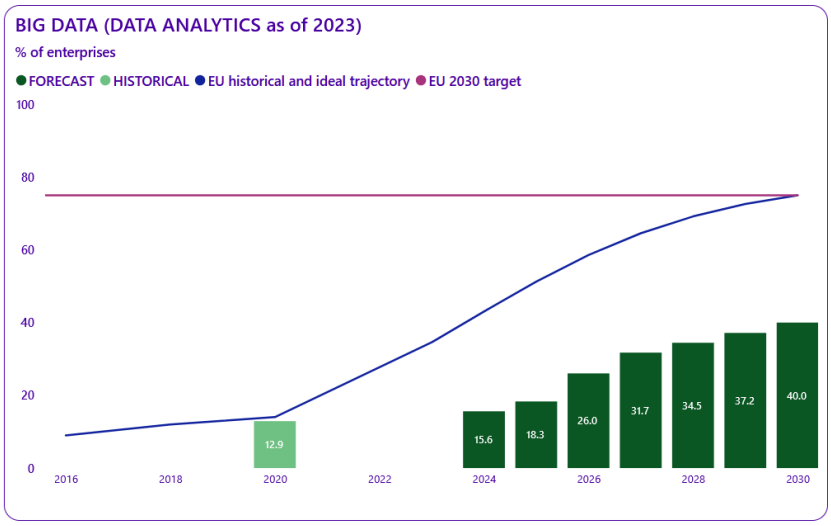
Note: The source of national forecast values is the 2023 country roadmap

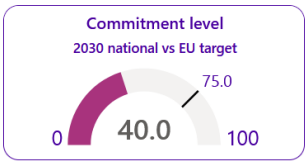
Greece has scope to improve its performance to contribute to the EU's Digital Decade target while showing a positive dynamic. The take-up of cloud services by enterprises in Greece progressed in 2023 to reach 18.1%, showing an annual progress growth of 9.1%.

Greece's national target 2030 is to have 56% of enterprises having adopted cloud services, being less ambitious than the EU 2030 target of 75%. This is linked to the current point, far below the EU average of 38.9%. In absence of intensification of efforts in the coming years, Greece's contribution to the EU target will remain limited.

Greece's roadmap does not refer to specific measures to foster the adoption of cloud. However, it plans broad measures to support the digital transition of SMEs, as well as measures for digitisation of the manufacturing which include advanced digital technologies such as AI, cloud, and data analytics.

- Data Analytics (Big Data)[8]





2023 state of play and recent progress

	Country level	EU level
FORECAST		34.6
DESI 2024	25.0	33.2
AVERAGE ANNUAL GROWTH %		

Annual growth cannot be computed in this case because Big Data was replaced by Data Analytics in 2023. The two indicators are not comparable.

Note: The source of national forecast values is the 2023 country roadmap

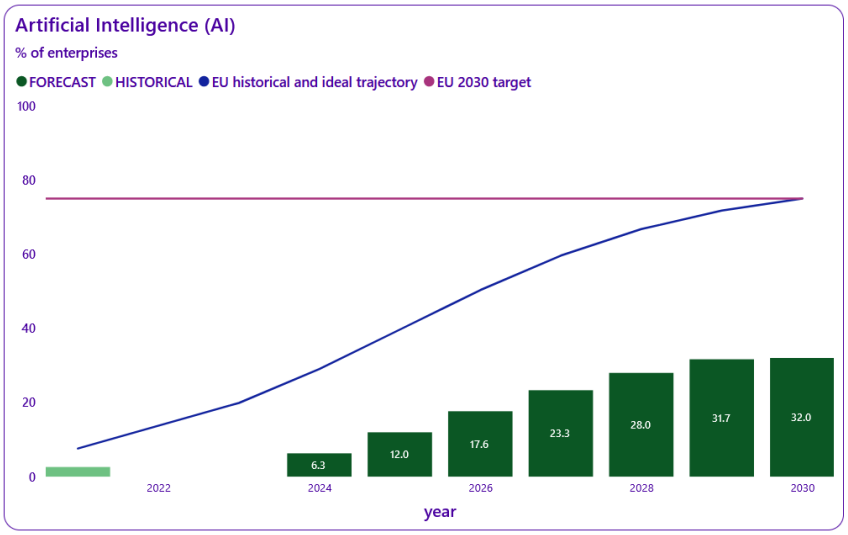
Regarding the use of data analytics by enterprises, Greece has scope to improve its performance to contribute to the EU's Digital Decade target while showing a very strong dynamic. In 2023, 25% of enterprises in Greece reported using data analytics, below the EU average (33.2%). Progress cannot be assessed as the indicator definition evolved since the previous data collection in 2020.

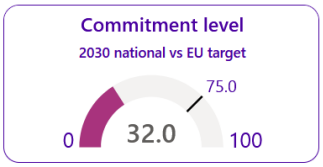
Greece's roadmap sets the national target for 2030 at 40% of enterprises using data analytics, which is below the EU 2030 target (75%).

Greece's roadmap does not refer to specific measures to foster the use of data analytics by enterprises, but the broad measures to support the digital transition of SMEs and the digital transition of manufacturing enterprises described above include advanced digital technologies such as AI, cloud, data analytics. Greece also plans to develop a national data strategy, under an RRP measure, which will contribute to promoting the use of data analytics by enterprises.

[8]As of 2023, Eurostat changed the Big Data into a Data Analytics indicator, thus disabling comparison with previous years.

- **Artificial Intelligence**





2023 state of play and recent progress

	Country level	EU level
FORECAST		19.9
DESI 2024	4.0	8.0
AVERAGE ANNUAL GROWTH %	24.0	2.6

Average, annual growth is computed between the two most recent available data points.

Note 1: at the end of 2023 ESTAT revised backward the values of AI. The revised value for 2021 at the EU level is 7.6 % (from 7.9 %).

Note 2: The source of national forecast values is the 2023 country roadmap

Greece has scope to improve its performance to contribute to the EU's Digital Decade target while showing a very strong dynamic. The take-up of AI by enterprises in Greece progressed in 2023 to reach 4% (an annual growth of 24%).

Greece sets the national target for 2030 at 32% of enterprises adopting AI, far below the EU 2030 target of 75%. The low level of ambition on this target for 2030 reflects the current situation which is half the EU average (8% of enterprises adopting AI). The overall low level of digital maturity of enterprises hinders the adoption of advanced technologies. A lack of understanding on how AI could have a positive impact on business operations by SMEs is another barrier to adoption.

In its roadmap, Greece does not refer to specific measures to foster the adoption of AI by enterprises. However, broad measures to support the digital transition of SMEs and the digital transition of manufacturing enterprises as described above include advanced digital technologies such as AI, cloud and data analytics.

In October 2023, in response to the emergence of generative AI, Greece set up a High-Level Advisory Committee for Artificial Intelligence (AI) under the Prime Minister. This Committee aims to prepare Greece for the diverse applications of this technology while ensuring the country's active participation and resilience: adapting and thriving alongside AI advancements, boosting competitiveness, leveraging AI to gain a competitive edge, sustainable development and prosperity, and utilising AI responsibly to achieve long-term growth that benefits all.

The Committee will provide data-driven recommendations for the national AI strategy, focusing on key areas critical to Greece's success: fostering innovation, improving productivity and creating quality jobs, strengthening infrastructure, addressing climate challenges and promoting social cohesion, securing national digital sovereignty, ensuring control over digital resources and efficient government operation, shaping a global role by identifying Greece's strengths in AI and contributing to international discussions on ethical and regulatory frameworks.

In this context, the national strategy for AI has been temporarily put on hold, to adapt it to new challenges emerging from generative AI. However, the AI Observatory[9] established within the Ministry of Digital Governance is currently in preparation. The aim is to collect data on the national AI strategy's implementation, report on Greek AI activities, and assist stakeholders in setting priorities and finding growth opportunities, develop Key Performance Indicators (KPIs) and also track the impact of AI on individual rights. It will receive the support of the operational programme 'Digital Transformation' under the National Strategic Reference Framework (NSRF) 2021-2027.

- Take-up by enterprises of cloud or AI or data analytics

Greece scores at 33.5% on this indicator, measuring the adoption of either AI, cloud or data analytics, which is significantly below the EU average (54.6%). It reflects the current low rate of adoption of these three technologies, as mentioned above and spotted in Greece's roadmap

Unicorns/scale-ups/start-ups

In 2023, Greece had three unicorns[10]. To align with the EU's Digital Decade target of doubling the number of unicorns, Greece's ambition is to create 20 unicorns in the country by 2030.

Greece's start-up ecosystem is making significant progress. The platform Elevate Greece brings together over 820 start-ups[11] (100 more than last year). Created by the Ministry of Development and Investment in 2020, Elevate Greece operates as a national registry of start-ups to monitor progress and provide support to the national start-ups. The objective is to have over 1 000 start-ups registered by the end of 2025. The platform also serves as a dashboard of metrics to inform potential investors from Greece and abroad.

In 2023, according to the 'Startups in Greece, Venture Financing report 2023-2024', **13 Greek venture capital funds totalled EUR 545 million** (assets under current management), primarily concentrating on start-ups. In 2023, those funds invested in 62 start-ups (or 85% of all deals made). In addition, there is growing interest from international investors. In 2023, 33% of the venture capital funds taking part in investment rounds were American.Angel investors also participated in 42% of investments rounds. The top three sectors for investment in Greece in 2023 were RetailTech, Artificial Intelligence (AI), and AgriTech, in line with global trends.

Strengthening Cybersecurity & Resilience

National cybersecurity policy is becoming more prevalent in Greece. Since companies rely increasingly on digital technologies, the risk of exposure to cybersecurity incidents is growing, highlighting the need for better preparedness. In 2022, 5.6% of enterprises in Greece reported ICT service outage due to cyberattacks (e.g., ransomware, denial of service attacks), which is above the EU average (3.5%). Enterprises in Greece appear to be less prepared than their EU counterparts as only 14.2% of enterprises reported being insured against ICT security incidents, while the EU average was 25% in 2022.

On 14 February 2024, a new National Cybersecurity Authority (NCSA)[12] was established as a separate public law body under the auspices of the Ministry of Digital Governance. This Authority serves as the single point of contact under the NIS Directive (the Directive on network and information systems). It is responsible for ensuring the correct application and, where necessary, the enforcement of the

[9] Law 4961/2022
[10] Source: Dealroom (date of extraction 29/01/2024)
[11] On 01/04/2024
[12] Law 5086/2024

rules outlined in this Directive at national level. Additionally, the NCSA is currently assigned as the National Cybersecurity Certification Authority and appointed as the National Coordination Center under the European Cybersecurity Competence Center's (ECCC) framework.

The creation of the NCSA is a critical component of the national cybersecurity strategy aimed at enhancing the cyber resilience of national critical infrastructure and public administration. This initiative marks significant reforms and investments supported by the Digital Europe Programme, under the National Cybersecurity Strategy 2020-2025. As part of this effort, the Authority coordinates co-funded projects currently under development and most notably the Consolidated SOC (EL-SOC), which will serve as a hub for sectoral and other SOCs on a national basis. Additionally, the NCSA is participating in the development of a cross-border SOC platform with other EU-Member States. Also monitors the overall level of cyber security in the country and prevents, protects, coordinates and contributes to countering threats and cyber-attacks, as well as managing security incidents, including by operating the EL-SOC, the National SOC Network and the Incident Response Team in cyberspace (CSIRT).

The NCSA is also spearheading an initiative with other member state authorities to establish a European Digital Infrastructure Consortium (EDIC) to support the implementation of the **Cybersecurity Skills Academy** policy framework, as outlined in the Communication of the Commission 'Closing the cybersecurity talent gap to boost the EU's competitiveness, growth and resilience'[13].

In terms of research and innovation, several of the seven EDIH set up in Greece provide services and technologies related to cybersecurity solutions in various policy domains (healthcare, energy, and environment).

[13] COM(2023) 207 final, 18.4.2023

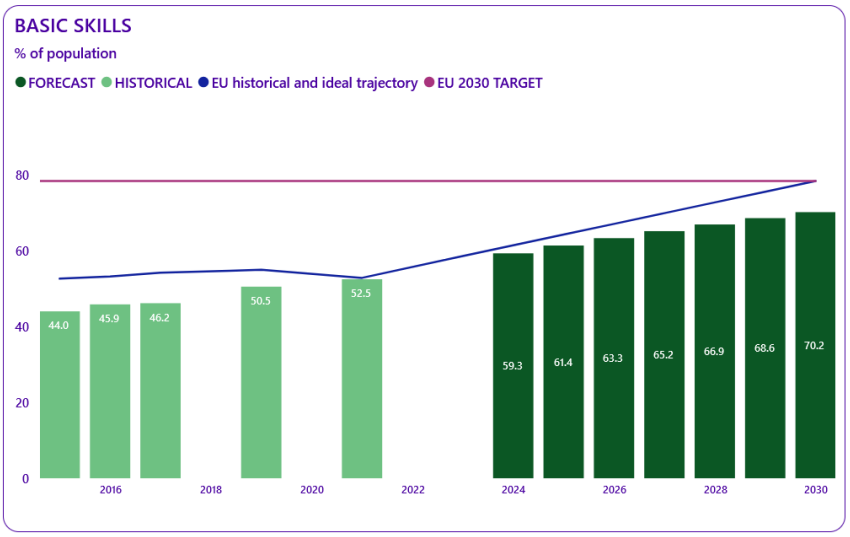
Protecting and empowering EU people and society

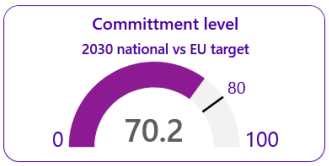
Empowering people and bringing the digital transformation closer to their needs

The digital transformation of public services and administration at the core of Greece's digital transformation strategy shows significant progress, but also requires that people have the level of digital skills needed to benefit from the services. Although Greece has already taken action to develop the digital skills of the population, it has not yet yielded results, as 52.4% of the population in Greece (age 16-74) had at least basic digital skills. The number of ICT specialists in terms of the share of employment is also very low (2.4%).

Equipping people with digital skills

Basic Digital Skills





2023 state of play and recent progress

	Country level	EU level
FORECAST		59.8
DESI 2024	52.4	55.6
AVERAGE ANNUAL GROWTH %	-0.1	1.5

Average, annual growth is computed between the two most recent available data points

Note 1: Data break-in-series in 2020

Note 2: The source of national forecast values is the 2023 country roadmap

Greece has untapped potential to contribute to the EU's Digital Decade target on basic digital skills, demonstrating a limited dynamic. In 2023, 52.4% of the population in Greece (age 16-74) had at least basic digital skills below the EU average (55.6%), showing no progress since 2021, the last year of data collection (52.5%).

In its roadmap, Greece set a target for 70.2% of the population to have at least basic digital skills by 2030, below the EU target of 80%. The roadmap sets out a substantial number of measures to develop the digital skills of the population. Since most started less than 2 years ago, it is too soon, to measure their impact.

In 2023, Greece launched several initiatives to train the population. It launched a five-step learning path, hosted on the Greek digital skills and jobs platform, leading to the development of basic digital skills, under the programme 'Digital citizen learning sequence'. It created 'Community of Good Practice for Digital Skills' to exchange know-how and good practices in view of strengthening the ecosystem of

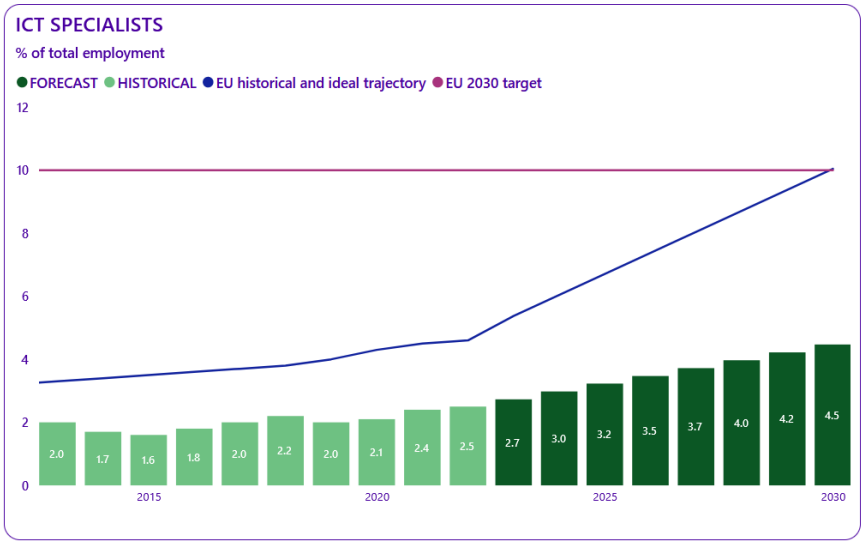
digital skills training in Greece. Greece is also working on the development of a National Digital Competency Framework and certification system based on DigComp 2.2.

In the framework of the digital transformation of the education system, Greece launched a project for teacher' training schemes in 2023. The plan is to train 120 000 teachers over the period 2023-2025.

The project 'Digital skills for conscripts', funded by the RRP started preparatory work in September 2023. It aims to support conscripts in developing the digital skills needed to effectively use the technology embedded in the armed forces and to boost their digital skills to enter the job market after military service.

Private sector initiatives launched by big digital enterprises present in Greece are also contributing to this goal, by providing training courses in digital technologies for all groups of the population.

ICT specialists



2023 state of play and recent progress

	Country level	EU level
FORECAST	2.7	5.4
DESI 2024	2.4	4.8
AVERAGE ANNUAL GROWTH %	-4.0	4.3

Average, annual growth is computed between the two most recent available data points

Note: The source of national forecast values is the 2023 country roadmap

Greece has scope to improve its performance to contribute to the EU's Digital Decade target and the indicator demonstrate a very limited dynamic. The number of ICT specialists in Greece in terms of the share of employment is 2.4%, far below the EU average of 4.8%, showing no progress since 2022 (2.5%). In terms of gender balance, 19.8% of ICT specialists are women, above the EU average (19.4%).

In its national roadmap, Greece set a target of 4.5% of ICT specialists in total employment by 2030. The national target is below the EU target of 10%. On the basis of past data and the current result, unless Greece steps up its action in this front over the coming years, it will continue to make a limited contribution to this EU target.

In a recent Flash Eurobarometer, 'European Year of skills: skills shortage, recruitment strategies in SMEs', responses to the question 'to what extent are the following skills becoming more or less important for your company', in the majority of the Member States, indicate that digital skills (i.e., the skills required for adopting and/or using digital technologies) are becoming 'somewhat' or 'much more important'. 81% of respondents in Greece share this view. SMEs in Greece are also the most likely to 'strongly agree' or 'somewhat agree' that skills shortages hold their company back from adopting and/or using digital technologies (67%).

In this context, the programme for upskilling and reskilling workers launched in Greece by the Public Employment Service (DYPA) at the end of 2022, with RRF support, will benefit enterprises trying to recruit ICT specialists. The aim of the programme is to upgrade the knowledge, skills and abilities of private-sector employees to meet the modern trends in skills for the workplace and to improve both the productivity of beneficiary employees and their prospects for job retention. The DYPA is also cooperating with the OECD in view of developing a Hellenic quality assurance system for non-formal learning.

Measures dedicated to promoting ICT training and careers for women are also planned in Greece. In 2023, the region of Central Greece participated in the European project 'FEMINA'. The project implemented an educational seminar for women (employees, entrepreneurs and prospective entrepreneurs) in science, technology, engineering and mathematics (STEM). The seminar cover topics such as: (i) design, development and deployment of green ICT; (ii) use of e-commerce platforms; (iii) mobile application development tools and practices; (iv) marketing and digital communication skills.

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

e-ID

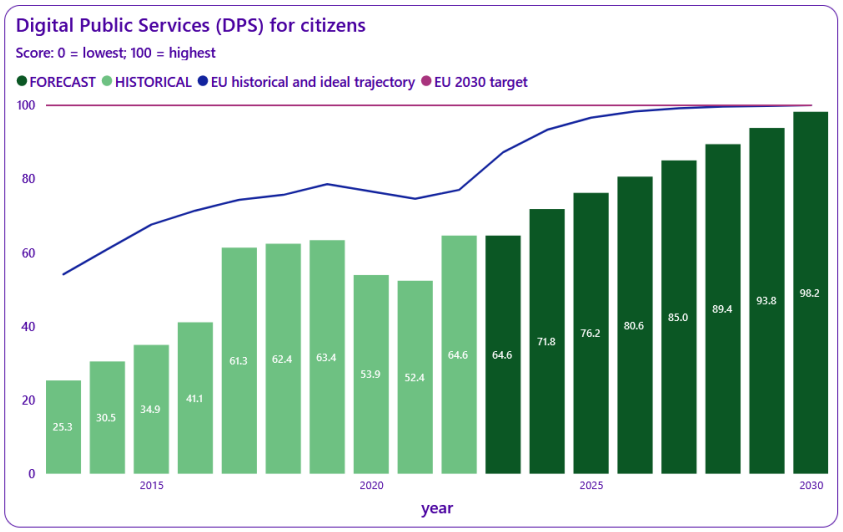
Greece has not yet notified the European Commission of an electronic identification scheme under the eIDAS Regulation. However, it is constantly upgrading the number of services available on the Gov.gr Wallet application, available since 2022, for Greek citizens.

In 2023, Greece started issuing a new type of national identity card for Greek citizens. It creates the basis for rolling out the national eID scheme. Currently, Greece has developed the eIDAS node, and already tested the connections with 17 countries in the testing environment as well as 14 countries in the production environment. It also launched the 'Know Your Customer' (KYC) service. This service offers a digital alternative to producing documents for banks in order to verify personal or professional details under the Anti-Money Laundering Regulation.

Greece is active in the POTENTIAL**,** EWC **and** DC4EU **consortia leading large-scale pilot projects to test the European Digital Identity Wallet launched in 2023.** Several Greek public and private entities participate in more than six-use cases such as financial account opening, mobile driving licence, remote qualified signatures, and e-prescriptions. Entities also work on projects related to digital travel credentials, educational and professional qualifications and the European health insurance card.

Greece

Digitalisation of public services for citizens and businesses



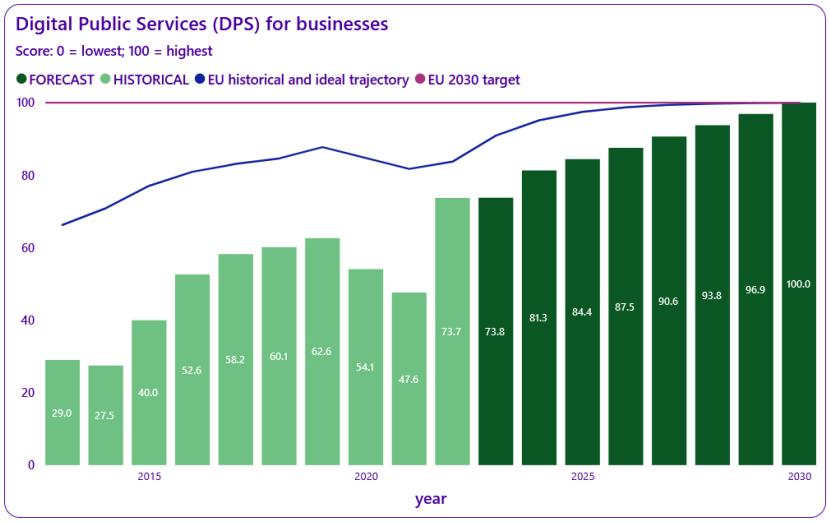
2023 state of play and recent progress

	Country level	EU level
FORECAST	64.6	87.2
DESI 2024	75.9	79.4
AVERAGE ANNUAL GROWTH %	17.5	3.1

Average, annual growth is computed between the two most recent available data points

Note 1: Data break-in-series in 2020

Note 2: The source of national forecast values is the 2023 country roadmap



2023 state of play and recent progress

	Country level	EU level
FORECAST	73.8	90.9
DESI 2024	86.2	85.4
AVERAGE ANNUAL GROWTH %	17.0	2.0

Average, annual growth is computed between the two most recent available data points

Note 1: Data break-in-series in 2020

Note 2: The source of national forecast values is the 2023 country roadmap

On digital public services for citizens, Greece has untapped potential to contribute to the EU Digital Decade target, while demonstrating a very strong dynamic. With a score of 75.9 Greece performs below the EU average (79.4), but records a recent annual growth of 17.5%, while the EU average growth is 3.1%.

On the digital public services for businesses, Greece brings a positive contribution to the EU's Digital Decade target and demonstrates a very strong dynamic. With a score of 86.2, Greece performs above the EU average (85.4), presenting a recent annual growth of 17.0%, while the EU average growth is 2.0%. Other indicators of the digitalisation of public services confirm the progress made since last year. Its score on the mobile friendliness indicator is 98.3, up 13.7 points since the previous year (84.6), and above the EU average (95.3). On the availability of user support, Greece scores 85.2, slightly below the EU average (86.2), but up 11.1 points compared to last year (74.1). On the indicator on prefilled forms, Greece scores 79.0, above the EU average (70.8), and up 24.7 points since the previous year.

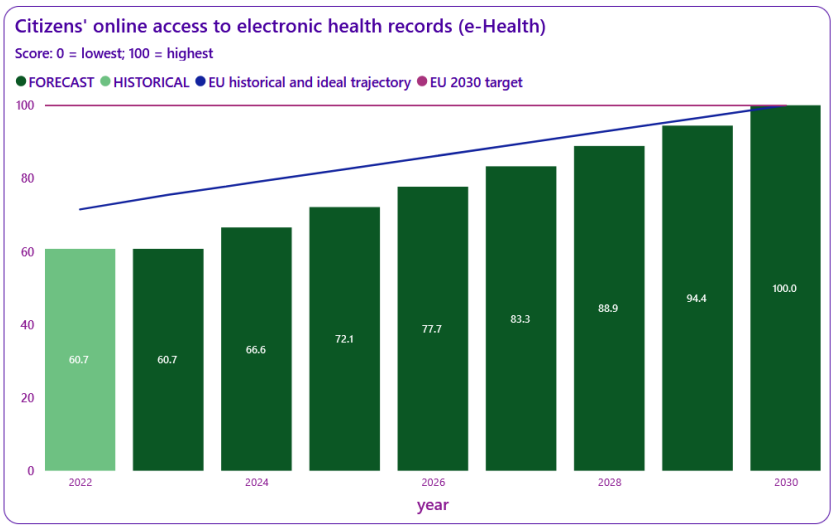
In its roadmap Greece set targets for both public services for citizens and businesses at 100, in line with the EU target for 2030. Given the current positive results, which surpassed the forecast made in both trajectories for the year 2023, and assuming Greece will maintain the ongoing action, it seems to be on track to reach both targets by 2030. Beyond that, the digital transformation of the public administration will continue to be implemented by major programmes under the RRP, such as the digitalisation of the archives, interoperability of systems, etc.).

Greece has considerably improved the provision of digital public services to people and business since 2021 by bringing and developing the Gov.gr **portal**. Every year additional services for people and businesses are put online, from all parts of the public administration. In 2023, the new services available on Gov.gr include a file for consumer complaints, the National Broadband Map, the certificate of family's status, vehicle registration and enrolment in VET schools. This is possible only with increasing interoperability between systems and data, and with interoperability in the design of public services. A measure funded by the RFF has started to develop a comprehensive framework and roadmap for the interconnection and interoperability of registries and services for data exchange between national public organisations, in line with the new European Interoperability Framework (EIF).

The upward trend observed for digital public services is also because the availability of cross-border services on Gov.gr improved considerably. In 2023, a digital assistant chatbot mAIgov was launched on Gov.gr. It uses artificial intelligence technologies to facilitate interactions with the administration. People can communicate with the digital assistant mAIgov in the 24 official languages of the European Union and in Albanian, to be informed about services and administrative procedures.

In 2023, Greece started implementing the project 'Open data and enhancing inclusiveness'. Funded by the RRF, the aim of the project is to strengthen open governance through a consultation mechanism and to support implementation of Law 4727/2020 on open data. Developing digital tools to support open government enhances the building of effective democratic institutions and enables inclusive citizen participation**.**

e-Health



2023 state of play and recent progress

	Country level	EU level
FORECAST	60.7	75.5
DESI 2024	73.8	79.1
AVERAGE ANNUAL GROWTH %	21.6	10.6

Average, annual growth is computed between the two most recent available data points

Note: The source of national forecast values is the 2023 country roadmap

Greece has untapped potential to contribute to the EU Digital Decade target on e-health, while showing a very strong dynamic. With a score of 73.8 in 2023**,** Greece is below the EU average of 79.1, but it shows a remarkable annual growth rate (21.6%) much higher than the EU average annual growth (10.6%).

In its national roadmap, Greece set a target for e-health at 100, in line with the EU target 2030. The trajectory shows that Greece surpassed its national yearly forecast set at 60.7 for 2023.

The digital transformation of the health sector is one of the priorities in Greece's digital transformation strategy to optimise healthcare quality and patient safety. Greece's roadmap sets out measures to be implemented with support from the RRF. The measures are currently on going.

Since 2023, all citizens can access their electronic medical records using a mobile application myHealth. This application provides modern health services to people in Greece and at the same time reduces bureaucracy, ensures transparency, and lays the foundations to develop new health and social security digital services.

Greece is also active on a cross-border project on 'roaming' for health services. In June 2023, the e-government Center for Social Security (IDIKA), the national contact point for e-health successfully completed the 'end2end' test for cross-border services of electronic prescriptions and patient summary exchange. The trials were carried out with two Member States, Spain for the exchange of the patient summary and with Poland for the electronic prescription of medicines. During the trials, Greek prescriptions registered in the Greek Electronic Prescribing System were executed by a Polish pharmacist and Polish prescriptions by a Greek pharmacist. IDIKA, in collaboration with the Ministry of Health, also completed the design and implementation of the National Registry of Patients with Spinal Muscular Atrophy, as well as the HIV Infection Information System.

The 'Health Hub', an EDIH, was set up in 2023 in Thessaly for 'Healthcare & Pharmaceutical Industry Transformation through Artificial Intelligence Digital Services'. The Hub will be a reference point for digital health at regional, national and European level. It will provide digital transformation services to SMEs and public administrations of the health and pharma sector and supports them in boosting their outreach, precision, innovation capacity, and networking efforts.

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

Greece has recently taken a series of actions to build a safe and human-centric digital environment which are directly related to the Declaration of digital rights and principles. The Digital Transformation Bible adopts all the principles set out in the Declaration: putting people at the centre of the reforms, ensuring transparency and a (re-)design of digital services to democratise access, promoting the provision of digital public services through a multitude of channels. Law (4961/2022) on emerging technologies also provides the framework for the ethical development of AI, rules on data and network security, and on the just and transparent utilisation of advanced technologies.

On the inclusion and accessibility of digital services, in 2023, the Ministry of Digital governance published the first edition of the Digital Accessibility Guide for websites and mobile applications of the Greek public administration. The draft went to public consultation and received feedback from both Greece's National Accessibility Authority and the National Confederation of Disabled People (NCDP). It reflects the initial work carried out by the Greek Public Administration to create a comprehensive, organised, and concise manual on digital accessibility in Greek. This was accompanied by work to update and expand the training programme 'Websites and Mobile Apps Accessibility' for civil servants, with several modules presenting the accessibility goals and projects outlined in the Digital Transformation Bible (Greece's current national digital strategy). The training course also covered the National Action Plan for Disabled Persons and the current European Standard and the Web Content Accessibility Guidelines (WCAG).

In 2023, Greece took measures to reinforce privacy and safety online by signing a Memorandum of Agreement between the Hellenic Data Protection Authority and the Law School of the National and Kapodistrian University of Athens to cooperate on training, research, and scientific activities on personal data protection law. It signed another Memorandum of Agreement between the Hellenic Data Protection Authority and the National Transparency Authority in 2023 to exchange information and know-how for the benefit of people and the economy, while safeguarding the freedoms and rights of the individual and in particular data protection.

In line with the objective to promote a responsible and human-centric AI systems, Greece published, in 2023, a first empirical strategic foresight research on the use of Generative Artificial Intelligence. Conducted by the Special Secretariat of Foresight with the National Centre for Social Research (EKKE) and the NCSR Demokritos, it presents four scenarios for possible alternative future images of generative AI in Greece by 2030. The legal basis for further developing its policy is Greece's Law (4961/2022) on emerging information technology and communications, strengthening digital governance and other provisions, adopted in 2022. The Law includes the following provision: 'create the adequate institutional framework for the legitimate and safe utilisation of the possibilities of artificial intelligence technology by public bodies and to strengthen the resilience of public administration against cyber threats'.

In line with the objective of the Digital Decade to strengthen the rights and protection of users online, Greece adopted the law for the transposition and implementation of the Digital Services Act (DSA) on 3 April 2024. The Hellenic Telecommunications & Post Commission (EETT) becomes the National Digital Services Coordinator, responsible for supervising and checking compliance with the rules in the Digital Services Act in Greece. This is an important step since, in 2023, according to Eurostat, 25.7% of people in Greece who used the internet in the last 3 months had been exposed to messages online considered hostile or degrading to groups of people or individuals. The EU average is 33.5%.

Best practice: the third e-age: digital empowerment of the older population

The aim of the project: 'Third e-age: Digital Empowerment of people aged 60+', launched by the National Academy for Digital Skills is to tailor individual training and customised support to the older population provided by Digital Assistants-Trainers, with the goal of enabling participants to perform basic digital tasks.

The older people participating in the project get the opportunity to explore how to use their personal ICT equipment, create and exchange information and data, learn to request and receive digital services and be empowered to communicate online and share with their loved ones with a basic level of security and a fair amount of digital citizenship.

The initiative is inspired by the social ambition to reach out, motivate and provide digital literacy services to the older population drawing on the local government network. The sessions are held in selected civic amenity sites, open care centres for older people, and in 'Digital Corners', in areas that are fabric of daily life to foster social membership. In this context, integrating ICT equipment in the daily activities with the guidance of Digital Assistants-Trainers transforms the upskilling sessions into a vibrant experience to help people develop new habits. The Digital Assistants-Trainers play an important role in the success of the initiative by creating customised learning and support tailored to the age and the wide variety of backgrounds in the group.

As regards participation and inclusion, the initiative has been welcomed by the older population in rural areas without any gender, education, or occupation disparities. Over 1 400 beneficiaries with an

average age of 71.5 years, have participated in over 7 000 digital skills development sessions. The demographics breakdown shows that the majority of participants were women (71.6%), retired (88.7%) and between 55-80 years of age (91%).

Leveraging digital transformation for a smart greening

Greece's national roadmap mentions some green transition measures related to the broad objective under the Digital Decade of having more sustainable, energy- and resource-efficient digital infrastructures and technologies of ensuring coherence and coordination when implementing measures for the twin transitions. These are additional to the measures related to establishing a sovereign cloud, edge nodes and 5G infrastructures. Greece's national energy and climate plan and the RRP also plan measures for which digital technologies will be a smart agent that triggers the green transition.

In the RePowerEU chapter of the RRP, a reform of the regulatory framework for smart grids is expected to accelerate implementation of smart and digital technologies in the electricity distribution network in Greece. In addition, investments to roll out the installation and use of electricity smart meters are expected to boost the efficiency of electricity distribution and the future expansion of renewable energy.

In 2023, Greece passed a new piece of legislation on data centres[14] establishing a framework of the operation of the data centres including a provision on energy regulations. Greece also supports the European Code of Conduct for energy efficiency in data centres and the subsequent environmental, economic and energy supply security impacts they create. In general, the projects supported by the Ministry of Digital Governance provide recommendations on implementing Energy Efficient Systems.

Last year, Greece also launched a programme on the 'Green transformation of SMEs', supported by cohesion funds, to encourage investment projects. The aim of the projects is to develop and use modern technologies to upgrade their products, services and process in terms of energy upgrading, circular economy and adoption of clean energy sources.

Six Greek cities have been selected in the framework of the EU Mission for 100 Climate Neutral and Smart cities **in the fields of energy, transport and urban areas**. All cities will develop a Climate City Contract to plan and implement concrete actions based on innovation and experimentation to reach climate neutrality by 2030. In 2023, the Ministry of Environment created a larger network of green cities including 85 Greek cities to help the country achieve climate neutrality.

[14] Law 5069/2023 (A'193)

Annex I – National roadmap analysis

Greece's national Digital Decade strategic roadmap

Greece's national strategic roadmap, submitted to the Commission at the end of November 2023, is mostly complete. It sets out 14 national trajectories and targets to reach by 2030. The national targets set for connectivity, digital transformation of public services and e-health match the EU 2030 targets, but the targets for digital skills and for digital transformation of businesses are set below the EU 2030 targets. Greece's national strategic roadmap for the Digital Decade has been published https://digitalstrategy.gov.gr/en/sectors/digital-decade. Consultations of stakeholders, public and private sector, on the different targets and objectives took place during the process of drafting the roadmap. Greece also consulted partners on the Executive Network of Digital Transformation set up in 2022 to consolidate the whole-government approach taken in the country's digital transformation strategy.

The below table reflects a best-effort attempt at categorising the measures and budget set out in Greece's national roadmap.

Digital Decade target	Budget in the roadmap (EUR million)	Number of measures in the roadmap
Connectivity gigabit	400.0	3
Connectivity 5G	-	0
Semiconductors	27.3	4
Edge nodes	2.4	4
Quantum computing	48.9	7
SME take up	532.0	6
Cloud/AI/Big data uptake	1744.5	11
Cloud only uptake	145.0	1
AI only uptake	-	-
Big data uptake	-	-
Unicorns	394.9	4
Basic digital skills	512.3	14
ICT specialists	168.4	8
e-ID	119.1	5
Key public services	741.1	13
e-Health	394.8	5
Objectives	0.0	19
Total	**5230.2**	**104**

Greece's roadmap encompasses a detailed analysis of the current state of play, and a comprehensive set of measures and initiatives designed to meet the targets and the objectives of the Digital Decade to transform the country into a digitally advanced and inclusive society by 2030. The roadmap is built on Greece's digital transformation strategy, the Digital Transformation Bible 2020-2025. Funding of the digital transformation relies heavily on EU funds (RRF and cohesion funds). In addition to the 104 measures for an amount of EUR 5 230.2 million, the roadmap also gives a rough estimate of private investments for the coming years in data centres and gigabit connectivity of EUR 6 900 million.

Greece

In terms of overall expected impact, Greece has embraced the vision of the Digital Decade and had already taken a certain number of significant measures designed to digitally transform the country in almost all the areas covered by the Digital Decade. In recent years, there has been a noticeable acceleration of legislative, support and investment measures and significant progress, especially in the digitalisation of key public services, where the results are already tangible. However, the measures vary in terms of performance and intensity in making a contribution to specific targets. Activities and strategy related to cutting-edge technology infrastructure, including ICT specialists, present significant weaknesses to have a transformative effect and contribute positively to Digital Decade targets and objectives. Synergies between the measures and actions in the roadmap are expected to reinforce their impact, given the limited budget available for digital transformation.

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

MCP and EDICs

Greece is active in 6 EDICs already set up or in the making.

Greece is a member of the Alliance for Language Technologies EDIC (ALT-EDIC) and is also member of the EUROPEUM-EDIC aiming to deploy and operate the European Blockchain Services Infrastructure (EBSI), both EDICs are already set up.

Greece is expected to be the hosting Member State of the possible future EDICs: Connected Public Administration EDIC and of the Cybersecurity Skills Academy EDIC. Greece is developing the Statute and other relevant documents of the possible future Genome EDIC, within an informal Working Group. It is also engaging in discussions on the setup of possible future Cancer Image Europe (EUCAIM) EDIC, within an informal Working Group.

Greece also participates in the IPCEI Microelectronics and communication Technology (ME/CT) and in the EU Digital Wallet consortia: POTENTIAL, EWC and DEAEU.

EU funding for digital policies in Greece

EU funds support the digitalisation efforts in the Member States. Greece's Recovery and Resilience Plan allocates 22.1% (EUR 7.78 billion) of its total RRP budget to the digital transformation. According to the Joint Research Centre's study 'Mapping EU level funding instruments to Digital Decade targets', EUR 6.85 billion of Greece's RRP directly contribute to achieving the Digital Decade targets. Out of the Cohesion Policy funds received by Greece, EUR 1.7 billion is expected to contribute directly to the Digital Decade targets according to the same mapping study[15].

Greece's RRP gives a strong priority to reforms and investments related to the transformation of the public sector. It allocates 34% of the digital budget to e-government, digital public services, including digitalisation of transport, and local digital ecosystems. The digitalisation of businesses, in particular SMEs, is the second priority with 25% of the digital budget. Investments to develop the digital skills of the population represent 10% of the budget. In December 2023, the third payment was disbursed for an amount EUR 3.64 billion (EUR 1.69 billion in non-repayable financial support and EUR 1.95 billion in loans) covering 39 milestones and 4 targets. So far about 41% of the total funds have been disbursed.

[15] Based on an estimation of the possible contribution to the Digital Decade (Joint Research Centre report 'Mapping EU level funding instruments to Digital Decade targets - 2024 update' (Signorelli et al., 2024).