Council of the European Union

Brussels, 18 December 2025
(OR. en)

17041/25

TELECOM 487
CYBER 391
DIGIT 282
COMPET 1382

COVER NOTE

From:	Secretary-General of the European Commission, signed by Ms Martine DEPREZ, Director
date of receipt:	18 December 2025
To:	Ms Thérèse BLANCHET, Secretary-General of the Council of the European Union
No. Cion doc.:	COM(2025) 771 final
Subject:	REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS The Digital Europe Programme: Main findings of the interim evaluation

Delegations will find attached document COM(2025) 771 final.

Encl.: COM(2025) 771 final

EUROPEAN
COMMISSION

Brussels, 18.12.2025
COM(2025) 771 final

REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS

The Digital Europe Programme: Main findings of the interim evaluation

{SWD(2025) 420 final}

Contents

Glossary

Abbreviation	Term
ECF	European Competitiveness Fund
EDICs	European Digital Infrastructure Consortia
EDIHs	European Digital Innovation Hubs
ERDF	European Regional Development Fund
HPC	High-performance computing
JU	Joint Undertaking
MFF	Multiannual Financial Framework
SO	Specific Objective
STEP	Strategic Technologies for Europe Platform
TEFs	Testing and Experimentation Facilities
RRF	Recovery and Resilience Facility

1. Introduction

The **Digital Europe programme**[1] (Digital Europe) provides **strategic investments into the deployment of digital infrastructures and technologies, contributing to the EU's digital transformation,** and to building the EU's **digital autonomy** and **competitiveness** on the global stage.

The Digital Europe programme has a total budget of EUR 8.16 billion (2021-2027), which is relatively modest for its ambitious goal to foster the deployment of key digital technologies and infrastructures, their best use for critical sectors, and the related advanced digital skills development with the overall goal of contributing to increased strategic autonomy, security and competitiveness across the EU. To achieve these general goals, the programme supports activities in six specific objectives: (i) high performance computing (HPC), (ii) cloud, data and artificial intelligence, (iii) cybersecurity, (iv) advanced digital skills, (v) the adoption and best use of key digital technologies and (vi) semiconductors.

Activities funded by Digital Europe have also supported the implementation of **EU Regulations**, and Directives such as the Chips Act[2], the AI Act[3], the Cyber Resilience Act[4], the Cyber Solidarity Act[5], the NIS2 directive[6], the Digital Services Act[7], the Digital Markets Act[8] and the Interoperable Europe Act[9]. The programme has also contributed to major strategic EU initiatives, such as the AI Continent Action Plan[10] and the Apply AI strategy[11].

Before the launch of Digital Europe in 2021, there was no EU-level programme specifically targeting specifically digital deployment to complement the existing R&I funding programmes. Consequently, there was an **EU investment gap in the deployment and take-up phase** of digital, particularly for **large-scale, multi-country deployments** of digital technologies and infrastructures, as well as large support for developing advanced digital skills, to systematically strengthen EU's competitiveness.

At the time the programme was launched in 2021, EU-funded supercomputers were absent from the global top 10, underscoring Europe's significant gap in competitiveness in high-performance computing on a global scale. There was also a barrier to access quality-controlled data and no coordinated approach to strengthen expertise in AI and boost the uptake of AI across the EU. The EU also relied heavily on non-EU suppliers for its semiconductor needs with a share of 10% of the global semiconductor market as opposed to a share of 33% by the US and a share of 26% by China[12]. In addition, there was no coordinated approach across Member States to be better prepared and tackle large-scale cyberattacks in a coordinated manner. Finally, the EU faced a

[1] Digital Europe programme (2021–2027) | EUR-Lex
[2] Regulation - 2023/1781 - EN - EUR-Lex
[3] Regulation - EU - 2024/1689 - EN - EUR-Lex
[4] Regulation - 2024/2847 - EN - EUR-Lex
[5] Regulation - EU - 2025/38 - EN - EUR-Lex
[6] Directive - 2022/2555 - EN - EUR-Lex
[7] Regulation - 2022/2065 - EN - DSA - EUR-Lex
[8] Regulation - 2022/1925 - EN - EUR-Lex
[9] Regulation - EU - 2024/903 - EN - EUR-Lex
[10] The AI Continent Action Plan | Shaping Europe's digital future
[11] Apply AI Strategy | Shaping Europe's digital future
[12] BCG-x-SIA-Strengthening-the-Global-Semiconductor-Value-Chain-April-2021_1.pdf

severe digital skills shortage and an inadequate uptake of digital solutions in areas of public interest.

Since the launch of Digital Europe, the increased investments in these key technological areas have proven to be highly effective. For instance, three of the EU funded high performance supercomputers are now among the fastest in the world, with the recently deployed first exascale supercomputer JUPITER securing fourth place[13] in the TOP500[14] ranking. Since the beginning of the programme, significant progress has also been made to grow EU's capacities in AI and cybersecurity, to promote the uptake of digital technologies and to create a workforce equipped with advanced digital skills.

The Digital Europe programme complements other EU funding programmes. It is coherent with the digital part of the Connecting Europe Facility (CEF2 digital), Erasmus+[15], the Recovery and Resilience Facility (RRF) and the European Regional Development Fund (ERDF). Synergies are particularly strong with **Horizon Europe**, which complements and extends the programme's activities by bridging the gap between research and deployment. For example, Horizon Europe's research in quantum technologies is directly integrated into the quantum computing infrastructure procured and deployed under Digital Europe. Similarly, the sectorial data spaces funded under Digital Europe leverage innovations from Horizon Europe, for instance, of projects that develop digital technologies, methods, architectures and processes for user-friendly, safe, trustworthy, transparent, and environmentally sustainable collection, storage, and processing of data.

The proposal for the **European Competitiveness Fund** (ECF)[16] in the next Multi-annual Financial Framework (MFF) aims to strengthen this research-to-deployment pipeline in the 'digital window' of the fund, aligning with stakeholders' call for a fast track from research to implementation. The Horizon Europe programme for research and innovation will remain a standalone programme but with a structure that is closely linked to the ECF, providing seamless support to researchers and innovators from ideas to start-up to scale-up.

2. Towards increased competitiveness and digital autonomy: flagship achievements of the programme

The Digital Europe programme has delivered **key flagship achievements** in each of its specific objectives.

Investments under **specific objective 1** (HPC) have been effective in setting up competitive HPC capacity for the EU by investing together with Member States in the acquisition and upgrade of infrastructure, by supporting related skills and expertise and by facilitating high impact HPC deployments.

[13] June 2025 | TOP500
[14] Home - | TOP500
[15] Under specific objective 4, Digital Europe complements the digital horizontal priority of the Erasmus+ programme.
[16] The EU Startup and Scaleup Strategy Choose Europe to start and scale: EUR-Lex - 52025SC0555 - EN - EUR-Lex

- Digital Europe has funded the **first exascale supercomputer JUPITER**[17] – the first supercomputer in the EU to exceed the threshold of one quintillion[18] calculations per second – ranking in fourth place on the TOP 500 list of the fastest supercomputers in the world[19] and holding the top spot in the ranking for the most energy-efficient supercomputing systems (Green500)[20].

In addition, two high impact deployments in HPC have been launched.

- Firstly, 19 AI factories[21] are being deployed across the EU as well as AI factory antennas[22] in Member States, Iceland, Switzerland, Moldova, Macedonia, Serbia and the UK to provide AI start-ups and other organisations with access to HPC, to support SMEs and other organisations in adopting HPC, to ensure collaboration between the public and private sectors in order to foster an AI ecosystem and to develop AI based products and services.
- Secondly, the Destination Earth platform was released in summer 2024. It provides digital models of the earth of groundbreaking resolution allowing users to timely predict and manage weather and climate extremes. The unique features of Destination Earth support Europe in its role as a global leader in adapting to and mitigating the impact of climate change.

Investments under **specific objective 2** (Cloud, Data and AI) support the uptake of AI in the public and private sectors. As in specific objective 1, there has been a dual focus on building key infrastructures as well as on concrete deployment acceleration.

- In terms of infrastructure, four large-scale sectorial AI Testing and Experimentation Facilities (TEFs)[23] have been established. These facilities provide large-scale, real-world environments to test and refine AI models, ensuring that it is validated, optimised, and prepared for deployment. The four existing TEFs operate in the areas of health, manufacturing, smart cities (including urban transport, mobility and mobility), and agriculture.
- In addition, **Common European Data Spaces** have been deployed or are under deployment in several areas/sectors in cultural heritage, health, language, mobility, media, manufacturing, smart communities, energy, tourism, skills, agriculture, and the Green Deal[24]. These data spaces, which at the same time improve the exchange and use of ley data and respect EU rules and values for personal data and consumer protection, enable trustworthy data transactions between participants and allow data users to create innovate products, and services or develop artificial intelligence tools.

---

[17] JUPITER - Exascale for Europe
[18] One billion billion calculations per second
[19] Home - | TOP500
[20] June 2025 | TOP500
[21] 7 AI factories selected in December 2024, six in March 2025 and six in October 2025.
[22] Antennas will collaborate closely with AI Factories to provide national AI communities with secure remote access to world-class, AI-optimised supercomputing resources.
[23] Sectorial AI Testing and Experimentation Facilities under the Digital Europe Programme | Shaping Europe's digital future
[24] The deployment process of the Green Deal data space has been initiated with the launch of the SAGE project in March 2025, with deployment based on the identified use cases foreseen by February 2028.

- Furthermore, the uptake of AI, in particular by startups, SMEs and public services, is being supported through the AI on Demand Platform (AIoD) offering trusted AI tools, expertise, and market-ready solutions as well as the EU Cloud Marketplace offering trusted cloud services.
- Current and future activities of the programme support the development of Generative AI applications and their uptake by businesses and the public sector to support the implementation of the Apply AI Strategy[25]. The Work programme 2025-2027, for instance, funds the integration of Generative AI into the sectorial TEFs, activities to strengthen Generative AI applications in the public sector, to sustain the use of AI in health and to support the development of virtual worlds testbeds.

Investments under **specific objective 3** (cybersecurity) have advanced cybersecurity capabilities, as well as the deployment of advanced cybersecurity solutions.

- In terms of capabilities, 26 cybersecurity infrastructures were successfully procured (CyberHubs), including two cross-border CyberHubs, in line with the targets. A network of 27 national coordination centres (NCCs) was set up across the EU to boost cybersecurity capabilities. Stakeholders of the NCCs indicated that the most tangible benefit gained so far from EU intervention in cybersecurity include the standardisation of practices, enhanced cybersecurity and improved cross-border collaboration.
- In terms of deployment of solutions, the first 12 complex cybersecurity tools providing key services, such as infrastructure and application vulnerability scanning, phishing mitigation and DDoS mitigators, have been deployed, with first user communities in the health sector getting access to these tools.

Investments under **specific objective 4** (advanced digital skills) have supported the design and delivery of advanced digital skills training and education programmes, also in alignment with the objectives of the Digital Education Action Plan (2021-2027). These include specialised education programmes, job placements, short term training courses, skills in semiconductors, the cybersecurity skills academy and activities to boost digital skills in young people, in particular girls.

- By the end of 2024, more than 50 master's programmes and 530 short courses were being offered. Over 20700 people were trained in highly specialised digital fields, such as AI, cybersecurity, semiconductors or robotics. A study shows that individuals value these training activities (beyond user contributions) at EUR 656 -1 015, with SMEs valuing these trainings at EUR 6 500 -14 400, showing that these skills initiatives have a perceived value for users.
- In addition, in the context of advanced digital skills development, a wide ecosystem of more than 430 universities and training providers across Member States was established, paving the way for cross-border accreditation, industry cooperation and student and teacher mobility.

Investments under **specific objective 5** have promoted the adoption and use of key digital technologies in three main work strands: launching the European Digital Innovation Hubs

[25] Apply AI Strategy | Shaping Europe's digital future

(EDIHs), reinforcing interoperability and the digital transformation of the public sector, and setting up centres, IT systems and platforms for a safer internet.

- Over 150 EDIHs were set up in 90% of European regions by the end of 2024 as well as in candidate and potential candidate countries[26], offering test-before-invest and other services. The EDIHs have reached over 800 000 attendees through 5 794 events, delivering over 29 000 services to over 54 600 companies related to training (30%), networking (27%), technology testing (25%), and funding (17%). Users are positive about the level and quality of services received, valuing these services at a perceived value of EUR 8 000 – 15 300 per organisation.
- The **EU Digital Identity Wallet** has been piloted involving around 360 public and private organisations from 26 Member States as well as Iceland, Norway and Ukraine across 11 use-cases (including identification for government services and bank account opening, payments, mobile driving licenses and electronic signatures)[27].
- The Interoperable Europe work strand developed a strong foundation for the digital transformation of the public sector (in 2024 the Interoperable Europe Portal disseminated more than 2 900 interoperability solutions for public administrations) and strengthened cross-border collaboration (e.g. through the GovTech4all Framework Partnership Agreement[28] bringing together 32 digital partners from 20 European countries), enabling governments to develop citizen-centred, and future-proof digital public services.
- The network of **Safer Internet Centres** together with the Better Internet for Kids Portal and the European Digital Media Observatory have been established across the EU to ensure a safe digital environment for children and to combat disinformation.

Investments under **specific objective 6** have strengthened Europe's semiconductor capacities.

- A EUR 3.7 billion investment has been made into state-of-the-art facilities to test, experiment, and validate leading-edge chip technologies and designs covering a wide variety of technologies from leading edge node chips to heterogeneous integration (Chips pilot lines).

- **30 Competence Centres** in all Member States and Norway were set up to enhance technical expertise and develop a skilled workforce for the semiconductor sector. These centres are providing businesses, especially SMEs and start-ups, with essential resources to develop semiconductor solutions, including support, training, and access to large-scale infrastructure facilities, such as the pilot lines and the future Design Platform.

Support to start-ups and SMEs

[26] In July 2024, 18 EDIHs offering a wide range of specialised digital transformation services have been invited to join the EDIH network from the following countries: Albania, Kosovo, Montenegro, North Macedonia, Serbia, Türkiye, and Ukraine.

[27] A second set of pilots was launched in September 2025 including together with the first set of pilots in total 500 public authorities and private companies across almost all member states as well as Ukraine, Moldova, Bosnia and Herzegovina, Iceland and Norway. These pilots cover approximately 20 different use-cases (including identification for government services and bank account opening, payments, mobile driving licenses, digital travel credentials and electronic signatures).

[28] GovTech4All | Interoperable Europe Portal

In addition to grants and procurements, the Digital Europe programme combined with the InvestEU guarantee provides financial support to innovative digital start-ups and SMEs through equity and quasi-equity.

- By the end of 2024, EUR **83.63 million** were committed under **the Investment Platform for Strategic Digital Technologies** to seven venture capital funds, which supported 38 innovative organisations (operating mostly in AI).

- In addition, EUR **67 million** were committed under the **Chips Fund** to support 19 small organisations and startups specialised in semiconductors.

Cross-cutting activities

A specific legal instrument, the European Digital Infrastructure Consortia (EDICs), has been introduced by the Digital Decade Policy Programme decision[29], to expand the array of tools to implement multi-country projects. EDICs are flexible and relatively quick to set up, and help pool resources between Member States and the EU. The first three EDICs were set up in the area of Large Language Models, smart cities and blockchain (the Alliance for Language Technologies EDIC[30], the Local Digital Twins towards the CitiVERSE EDIC[31], and the EDIC for European Blockchain partnership and European blockchain service infrastructure)[32].

With cutting-edge infrastructures now operational–ranging from HPC, AI testing environments and trusted data spaces to semiconductor facilities for industry to test, experiment and validate new breakthrough technologies–European public and private organisations are able to innovate more quickly[33], lower costs by adopting advanced technologies[34], and reduce dependence on non-EU providers[35]. This expanded access to cutting-edge capabilities and infrastructure across EU Member States empowers organisations, especially SMEs and public administrations, to compete in markets where speed, quality, and adherence to EU standards are key competitive advantages.

The final Digital Europe work programmes (2025-2027) will invest EUR 3.2 billion in the continuation of the six specific objectives while also introducing new activities to respond to, for instance, the rapidly evolving generative AI technology.

[29] Decision - 2022/2481 - EN - EUR-Lex
[30] The Alliance for Language Technologies EDIC - ALT-EDIC
[31] Implementing decision - 2024/459 - EN - EUR-Lex
[32] Implementing decision - EU - 2024/1432 - EN - EUR-Lex
[33] For instance, 56% of organisations using the services of the EDIH, and 52% of beneficiaries reported increased innovation and productivity growth rates.
[34] For instance, 39.1% of EDIH users and 48.1% of beneficiaries reported lower costs due to digitalisation as result of participating in the programme.
[35] For instance, 16% of EDIH end-user and 41.7% of beneficiaries report decreased dependencies on non-EU providers.

Table 1: Overview of State of Play

3. A highly relevant and flexible programme in a rapidly changing context

The interim evaluation of the Digital Europe programme highlights that **Digital Europe is highly relevant for addressing current and emerging challenges**. Across the six specific objectives (SOs) of Digital Europe, there is a broad recognition of the role of the programme in driving Europe's digital transformation and maintaining its global competitiveness, with all objectives being either mostly or very relevant both for stakeholders' current and emerging needs, with a particular strong stakeholder support for cybersecurity and digital skills.

In addition to responding to stakeholder needs, the Digital Europe programme has proven to be **flexible and in alignment with technological, societal, and economic developments**.

- During the implementation of the Digital Europe programme, a significant gap in semiconductor capabilities—exacerbated by the COVID-19 pandemic and related supply chain disruptions—was identified. To address this, the Chips Act[36] introduced a new, specific objective to the programme, integrating semiconductor development into its strategic priorities and strengthening Europe's resilience in critical technologies.

- Russia's war of aggression against Ukraine and the ensuing heightened risk of large-scale cybersecurity threats led to the support for the EU Cyber Solidarity Act[37], which introduced the **Cyber Emergency Mechanism** into Digital Europe to increase preparedness and response to large-scale cybersecurity incidents.

[36] Regulation - 2023/1781 - EN - EUR-Lex
[37] Regulation - EU - 2025/38 - EN - EUR-Lex

- More recently, the need to further develop enhanced AI capabilities in EU funded supercomputers has given rise to the **AI Factories[38] and AI GigaFactories initiatives**, which build on the progress achieved in SO1 (HPC).

Therefore, **three of the major budget re-orientations** in this MFF have been absorbed by the Digital Europe programme demonstrating the **strategic importance and relevance of the programme and its areas of investments in a rapidly changing context.** Activities funded by Digital Europe have also supported the implementation of **EU regulations** adopted in the field of digital **in response to the new challenges** arising during the MFF .The programme has, for instance, facilitated compliance with the AI Act by funding services and tools for AI providers to comply with the AI Act (AI innovation accelerator), testing mechanisms (AI regulatory sandboxes and testing and experimentation facilities) and an EU database on high-risk AI systems. The programme has supported the Digital Services Act and the Digital Markets Act by funding IT systems to contribute to their enforcement, e.g. to facilitate the collaboration among Member States, the Commission and the Digital Services Coordinators, the gathering and analysis of data and the setting up of a transparency platform, which gathers statements of reasons (hosting services' statements to inform users of the content moderation decisions they take and explain the reasons behind those decisions). Digital Europe also has helped organisations, in particular SMEs and start-ups, comply with the NIS2 directive and the Cyber Resilience Act. Besides Digital Europe also contributes to EU policy programmes. First and foremost, it implements the multi country projects of the Digital Decade Policy programme[39] and contributes to the Digital Decade targets for 2030. The programme's specific objective 4 also contributes to the Digital Education Action plan. In addition, the programme has also supported the digital COVID certificate issued over 2.3 billion times to facilitate safe travel and support Europe's tourism industry during the pandemic. **Altogether Digital Europe has demonstrated the importance of having a policy-driven programme that can support EU policy in particular areas.**

4. The programme's benefits to organisations in the EU and beyond

Beneficiaries[40] of the programme and users of its funded infrastructure and services report that tangible benefits have already emerged, with expectations of even greater impact in the near future. A targeted survey conducted in mid-2024 reveals that this initiative has not only facilitated a unified pan-European approach in the digital domain but has also unlocked deployment opportunities previously inaccessible to participating organisations.

Furthermore, beneficiaries have noted significant advantages in areas such as market positioning, networking and organisational development. For instance, 58% enhanced their institutional reputation, 55% strengthened strategic partnerships at the EU and international levels, 53% gained access to new academic partners, 46% to new industry partners, 44% expanded their workforce, and 38% launched innovative products or services.

[38] AI Factories | Shaping Europe's digital futurehttps://digital-strategy.ec.europa.eu/en/policies/ai-factories
[39] 2030 digital decade policy programme | EUR-Lex
[40] Beneficiaries refer to organisations receiving (in this context Digital Europe) grants while (end) users are individuals or organisations using the funded infrastructures, services and tools.

The initial phase of the programme has centred on establishing infrastructure, services, and digital tools, while the coming years will prioritise not only enhancing and expanding these infrastructures but also ensuring their broad accessibility and uptake across the EU (and in some cases beyond). This strategic shift is expected to drive a substantial rise in user adoption, as the programme transitions from foundational development to widespread usage of the new infrastructures and services. First users have already begun to demonstrate measurable benefits, underscoring the potential for broader impact in the future.

Users of the infrastructures, tools and services funded by Digital Europe have experienced strengthened collaboration and networking opportunities (69%), improved access to technology testing and innovation support (65%), and to AI technologies (49%), and increased efficiency and automation of processes (48%).

In terms of broader objectives, stakeholders view the programme as effective in boosting the EU's global competitiveness, in digitally transforming public organisations and in ensuring the EU's strategic autonomy. While to date the programme has produced these benefits to some degree, it is expected to do so to a greater extent over the next five years.

5. Strategic investments to create EU added value

The Digital Europe programme does much more than support the deployment of individual digital solutions: it applies **strategic investments** thereby creating digital ecosystems, with a strategic vision of digital transformation across the EU to ensure its digital autonomy and competitiveness on the global stage. The programme has supported complex large-scale deployments that Member States could not bring about on their own, ensured cooperation across Member States to tackle cross-border challenges and offered comprehensive services across the EU through its networks.

Digital Europe most prominently provides **financial additionality** by pooling and leveraging resources at a scale that may not be readily available to Member States or prioritised at the national level, particularly for cross-border initiatives and large-scale projects that aim to increase digital capacity at EU level.

Stakeholders also indicated that Digital Europe provides financial means on a scale and consistency not often available in national and regional schemes. Conversely, the programme is not viewed as having better funding conditions compared to national/regional instruments by both applicants and beneficiaries.

Behavioural additionality - the positive impact of Digital Europe on the behaviour of the supported organisations of Digital Europe - is taking shape and is expected to increase as the programme's activities are being further implemented. It has materialised mainly in the form of increased cross-border cooperation, which is at the heart of many Digital Europe funded activities, such as the **EDICs.**

Stakeholders also indicated that Digital Europe improved access to and cooperation with partners from other countries in the EU and beyond and supported the creation of a European ecosystem for digital technologies.

Behavioural additionality has also materialised in the form of both larger and smaller Member States aligning with EU strategies in strategic sectors. **Larger Member States** and key industrial players, often with already existing strategies and infrastructure in place, align with European initiatives (e.g. Belgium's IMEC or German's Fraunhofer participation in the Chips for Europe Initiative) and leverage legal frameworks, such as the European Chips Act to consolidate their national goals. At the same time, **smaller Member States** are influenced by these European frameworks to make specific critical technologies a priority (for instance, the Czech National Semiconductor Cluster[41], Finland's national strategy 'Chips from the North' or the Maltese Chip Start EU programme)[42].

There is also some first evidence for **output additionality**. For instance, the end-user survey revealed that almost half of the surveyed students or participants in skills trainings strongly agree that the trainings funded by Digital Europe are unique in the EU, and 64% strongly agree that they are more affordable than alternatives. Around 61% of users of different services (HPC, skills, EDIHs and TEFs) (strongly) agree that the services are more affordable than alternatives and that they are unique in the EU (54%).

6. Synergies with other EU funding programmes

In addition to Digital Europe, the EU channels significant funds into the digital transformation in other ways too. An estimate of EU spending on the digital transition[43] showed that EUR 208.1 billion of the EU budget (including NextGenerationEU) was dedicated to the digital transition between 2021 and 2024, representing almost 15.1% of the total EU budget with almost all EU funding programmes contributing to some degree to the digital transformation. The programmes with the most funding dedicated to the digital transformation were the RRF, regional policy and Horizon Europe.

While the Digital Europe programme is designed as a strategic, pan-European initiative that systematically addresses the EU's digital transformation aimed at fostering strategic autonomy, regional policies and the RRF adopt a more fragmented and localised approach to digitalisation, often prioritising immediate, country-specific needs over the creation of cohesive, cross-border digital ecosystems.

On the other hand, synergies with Horizon Europe are key to ensuring that the latest scientific and technological breakthroughs are rapidly translated into practical applications, deployed across industries, and adopted by public and private stakeholders. They are deeply anchored into the design of the Digital Europe work programmes[44]. Synergies by design are specifically evident in specific objectives 1 (HPC), 2 (cloud-to-edge solutions, data spaces, AI), 5 (technologies/solutions to support circularity) and 6 (semiconductors).

On **Artificial Intelligence**, while Digital Europe has supported the deployment and uptake of AI by sectorial AI testing and experimentation facilities and other services, such as the EDIHs,

[41] CNSC - Czech National Semiconductor Cluster
[42] Chip Start EU Program | Malta Enterprise
[43] Digital tracking - European Commission
[44] The DIGITAL Europe Programme – Work Programmes | Shaping Europe's digital future

Horizon Europe supports scientific progress in this area, for instance, by strengthening the alignment within Europe's R&I ecosystem in AI, propelling accuracy, robustness and trustworthiness of AI systems to satisfy industrial requirements in terms of autonomy, accuracy and safety and by embedding AI technologies within robotics and industrial automation (e.g. in automotive).

For **AI, HPC and semiconductors**, these synergies are magnified by the governance structure of the programme. The EuroHPC Joint Undertaking (EuroHPC JU) draws funds from Digital Europe, Horizon Europe, and the Connecting Europe Facility-Digital (CEF-D), which have been exploited to be complementary and mutually reinforcing. For instance, the recently launched AI factories[45] are funded by Digital Europe (which supports the acquisition and upgrade of AI specialised computational resources) and by Horizon Europe (which funds the set-up and operation of the AI factories as well as the alignment of European and national initiatives in this area).

For **HPC and quantum computing**, Horizon Europe supports, for instance, the development of European low-power processors and accelerators and the development of a quantum simulator. Moreover, more than 12 centres of excellence have been established across Europe to improve performance of algorithm in strategic domains and adapt applications to future advancements. Digital Europe, on the other hand, supports the acquisition and upgrade of supercomputing infrastructure and hybrid quantum supercomputers, as well as high impact deployments (see Section 2).

Similarly, In the **semiconductor** sector, the Chips Joint Undertaking (Chips JU) is combining resources from Horizon Europe and Digital Europe. The research initiatives have supported R&I activities originally launched under Horizon 2020 (H2020) through the ECSEL JU, its successor the KDT JU, as well as the transition in 2023 to the Chips JU and its alignment with the European Chips Act's 'Chips for Europe Initiative'. Current activities focus on the creation of foundational infrastructures and capacities necessary for semiconductor innovation and prototype production. Digital Europe, on the other hand, ensures the transfer of research to innovation platforms in semiconductors through pilot lines, which enable European companies to prototype devices on cutting-edge semiconductor manufacturing processes.

Digital Europe benefits from established networks, where beneficiaries have **previously collaborated on other EU-funded initiatives or worked as consortium partners,** and at the same time **brings in new participants, thereby contributing to a well-anchored shift of support in the ecosystems**: about half of the Digital Europe grant beneficiaries participated in Horizon Europe and/or Horizon 2020. In the beneficiary survey, 41% of respondents mentioned that their activities directly build on activities funded in other EU funding programmes.

Digital Europe complements other EU programmes by supporting the digital transformation in specific sectors, insofar as the horizontal tools and approaches promoted by Digital Europe (e.g. data spaces) are fit for the specific sectoral requirements.

[45] AI Factories | Shaping Europe's digital future

7. Participation in the programme

Digital Europe is open to all Member States as well as Norway, Liechtenstein and Iceland. In addition, nine other non-EU countries (Albania, Bosnia and Herzegovina, Kosovo, Moldova, Montenegro, North Macedonia, Serbia, Türkiye, Ukraine, and also recently Switzerland) benefit from Digital Europe funding. The programme has proved to be a critical instrument in supporting candidate and potential countries in the fields of digital identity, digital skills and digital innovation, as tangible examples of gradual integration into the EU Digital Single Market. It has in this way created **mutually beneficial cooperation between EU Member States, candidate and potential candidate countries** in key areas as a geostrategic investment for peace, stability and prosperity across Europe. Funding is available to associated countries in all specific objectives except for specific objective 3 (cybersecurity) and some activities in specific objectives 1, 2 and 6 require an ownership control assessment for entities established and/or controlled from outside the EU. These participation restrictions (based on Articles 12.5 and 12.6 of the Regulation[46]) protect the security and integrity of critical infrastructure and reduce the risk of technology leakage.

Stakeholder consultations and other evaluations (e.g. the Opinion of the Fit for Future platform on Digital Europe[47] and the Evaluation of the European Economic and Social Committee)[48] highlight that, since the programme is new to this MFF at the time of the consultations there was still **room for increasing knowledge** of the programme, with significant variation in awareness levels across Member States.

Another factor impacting participation in the programme is co-funding, which is a key element of the programme with most of the grants requiring a 50 % co-financing to incentivise national, regional and private spending on digital transformation. Some countries have set up specific national **co-funding mechanisms** to complement Digital Europe funding. Co-funding mechanisms, however, vary significantly among EU Member States. Countries, such as the **Netherlands, Denmark and Austria**, have established structured mechanisms specifically tailored to Digital Europe priorities, offering clear pathways for applicants to secure complementary national funding. These mechanisms often define priority themes, such as cybersecurity, AI, or digital infrastructure, ensuring a focused approach. Other countries offer fragmented or ad hoc support through ministries or existing programmes while many countries do not have structured Digital Europe co-funding mechanisms.

The programme has an **overall relatively high success rate** for grants, which was around one in two (49%, with a lot of variation across topics), with the overall rates for Horizon Europe (12.9-15%). For a number of topics in Digital Europe, there are fewer applications than in Horizon Europe, because there are fewer organisations or consortia that can hope to qualify for a single funded project, by gathering all the necessary expertise, know-how and capacity to bring in the necessary co-funding.

Overall, communication activities—including the Digital Europe website, information events organised by the Commission, and the Q&A on the Funding and Tenders portal[49]—were rated

[46] Regulation - 2021/694 - EN - EUR-Lex
[47] Adopted opinions - European Commission
[48] Evaluation of the Digital Europe programme | EESC
[49] EU Funding & Tenders Portal

positively. On the other hand, there was little engagement with the Digital Europe national contact points (NCPs). The network of NCPs[50] was set up in 2023 and received EU funding only as of September 2024, which is why surveys in 2024 show relatively low engagement. Overall, these initiatives are instrumental in promoting the programme across the EU as they leverage networks with a place-based approach, engaging directly with SMEs within their local ecosystems. To strengthen the NCP network, the Commission has invested in the capacity building of NCPs through dedicated information sessions; therefore, wider outreach and high-quality services can be expected in the coming years.

8. Simplification

Applicants are in general satisfied with content and process-related aspects of grant and procurement management, such as clarity of the scope, the description of calls, the rules and eligibility criteria, the application instructions and the timing and scheduling of calls. However, they are less satisfied with the funding conditions, particularly the funding rate. As a deployment programme, the programme's calls are often very specific with concrete requirements. This requires greater resources to prepare applications than for comparable programmes, such as Horizon Europe. At the same time, the funding rate is lower than in Horizon Europe. The widely used 'simple grant', with a 50% co-financing rate has been introduced as an important tool to leverage digital funding from Member States and stakeholders across the EU for such close to market actions, but it has presented a challenge for some types of stakeholders, such as public administrations, universities and SMEs.

Across consultations three key bottlenecks emerged that stakeholders face, with the first two closely linked to securing the additional funding to complement the 50% co-financing rate:

1. **The combination of national, regional, and European funds** presents legal complexities, including the need to comply with different rules, which creates uncertainty for stakeholders and hampers national co-investments. In addition, numerous stakeholders (EU-level policy stakeholders, beneficiaries) also highlighted **the lack of alignment of EU and national funding instruments** (different rules, timelines, etc.) making it challenging for applicants to navigate the different funding landscapes leading to administrative burden and delays in project starts.
2. Member States and other stakeholders also highlighted the difficulties faced by applicants in the use of **cumulative funding**, i.e. leveraging funding from other EU funding programmes such as the ERDF or the RRF in combination with Digital Europe. The strict *ex-ante* cost delineation requirement to implement combination of funding between RRF and other directly managed programmes has made it impossible to reconcile in practice with Digital Europe, where the beneficiaries receive a specific share of eligible costs (cost-based approach). The complexities of combining Digital Europe funding with ERDF come from having to coordinate with managing authorities and different rules applying to the two programmes (e.g. on the submission of costs).

[50] EU Funding & Tenders Portal

3. **Security restrictions** as defined by Articles 12(5) and 12(6), are key to protecting EU's security but they require additional information and processes in the implementation, leading to delays and changes in grant agreements. Ownership control assessments constitute a high administrative burden for the applicants and in certain cases can lead partners to drop out of the consortia or delay the grant agreement signature process. Beneficiaries mentioned difficulties with the declaration for ownership control, in particular for larger multinational companies and challenges in obtaining letters of support from Member States.

As the Digital Europe programme has evolved, the Commission has repeatedly incorporated lessons learnt, resulting in numerous simplifications of the programme's implementation linked to the three issues above:

1. ***State aid rules***: To facilitate national co-funding, the Commission has introduced a specific annex on State aid, as well as the most favourable funding rates in the Work programme 2025-2027[51] to bring more clarity into the possible aid intensity by Member States on top of Digital Europe support.

2. ***Combination of funding***: Due to the very strict conditions required for Digital Europe and RRF to pay the costs of the same project on a pro-rata basis[52], a combination of Digital Europe and RRF funding is no longer provided for. Though complex, a combination of funding between Digital Europe and ERDF is possible. The Commission has been organising seminars for Member States and beneficiaries, and discussions with the managing authorities of the ERDF to facilitate the combination of funding. Furthermore, the Strategic Technologies for Europe Platform (STEP)[53] was set up by the Commission to facilitate access to funding across 11 EU programmes, for instance, through the STEP seal, a label for high-quality projects.

3. ***Security restrictions***: In addition, in order to further help applicants and national authorities understand the specific nature of security restrictions, several outreach activities, trainings and workshops including, for instance, workshops for the programme committee, NCPs and appointed national security experts have been organised.

The Commission has implemented several simplification measures for grants. Overall, the use of the corporate model grant agreement and the programmes alignment on rules and procedures with other programmes as well as the use of corporate IT tools simplifies the user experience and consolidates and enriches guidance and training offers. The grant agreements provide further simplification, for example by providing the possibility for the use of **unit costs** for certain personal and other cost categories, the 7% flat-rate for indirect cost rate and more recently, **lump sum grants** for some activities**.** These simplification measures were perceived by a substantial

[51] The DIGITAL Europe Programme – Work Programmes | Shaping Europe's digital future
[52] Each programme paying parts of the costs of the project up to 100% of the eligible costs. This approach is deemed to be double funding by the European Court of Auditors. The pro-rata approach has been allowed in a few cases which remained exceptional.
[53] Strategic Technologies for Europe Platform - European Union (STEP)

share of beneficiaries as being effective at reducing the administrative burden. In addition, the Commission is also improving and simplifying user experience in its main entry point for funding programmes and procurement options managed by the European Commission and other EU institutions and agencies (EU Funding and Tenders Portal).

9. In the future

9.1 Digital Transformation in a new context

While the programme has made good progress on its objectives, the new geopolitical and technological context has made more substantial investments into digital transformation more critical than ever.

Over the programme's lifetime, the sociopolitical and technological landscape has undergone significant transformation, amplifying the critical nature of economic security and technological sovereignty in addition to competitiveness.

The current context is shaped by three interwoven factors:

- post-COVID digital acceleration, which has embedded digital transformation into the fabric of economic and societal resilience.
- rising geopolitical tensions, including renewed warfare in Europe, shifting US-EU relations, and the weaponisation of dependencies in global supply chains.
- the emergence and upscale of generative AI, which has unlocked unprecedented technological capabilities but also introduced complex policy challenges, from ethical governance to workforce disruption.

In this new context, the imbalances highlighted in the 2021 Impact Assessment[54] have become more critical. Key areas like supercomputing, artificial intelligence, semiconductors, and cybersecurity are no longer optional priorities but existential imperatives for securing the EU's strategic autonomy.

The recent Generative AI and Large Language Model (GenAI/LLM) revolution has underscored the strategic importance of the digital infrastructure investments made by the EU's Digital Europe programme: supercomputing, cloud and data spaces, and AI testing and experimentation facilities.

In addition, developing a collective cybersecurity resilience, capacity to anticipate, identify and react to increasingly more sophisticated cyberattacks has become essential to our future in the new geopolitical context.

However, the EU is still lagging behind. As highlighted in the Draghi report[55], the EU depends on foreign countries for over 80% of its digital products, services, infrastructures and intellectual property. While the US and China have been transitioning their economic models towards ICT

[54] EUR-Lex - 52018SC0305 - EN - EUR-Lex
[55] The Draghi report on EU competitiveness

since the early 2000s, Europe has not kept pace. The EU's share of global ICT market share dropped by 11 percentage points (from 21.8% to 10.8%) between 2013 - 2023 while the US' global ICT market share increased from 26.8% to 38% over the same period[56].

The EU is significantly behind the US and China in terms of industrial investment in ICT research and development in both ICT software and hardware[57]. US investment in ICT software is more than 12 times the investment of the EU. The US also leads in terms of numbers of companies in ICT software, with 54.3% US companies, 22.7% Chinese companies and only 8% companies based in the EU[58].

As highlighted in the impact assessment **accompanying the proposal for a Regulation of the European Competitiveness Fund (ECF)[59]** the EU suffers from a '**financing and investment gap in the latter stages of innovation, development and scaling up of companies**,[60] in strategic sectors essential for supporting the competitiveness of the EU economy, including the **'valley of death' scaling-up problem**[61].' European startups frequently face two critical 'valleys of death'. The first arises when innovations cannot transition into marketable products, and the second, which is especially challenging in Europe, occurs when companies struggle to scale[62].

Europe has a flourishing early-stage start-up ecosystem with the number of founders starting companies even surpassing the US. In 2015, there were less than 8 000 early-stage tech companies in Europe, while in 2024, this number has more than quadrupled to 35 000+[63] highlighting a dynamic entrepreneurial landscape. However, this growth coexists with structural challenges. Complex regulations, bureaucratic hurdles, and a fragmented EU market continue to undermine Europe's attractiveness as a place to start and scale a tech company[64]. In the starting phase, companies in the EU are slightly more likely to raise funding than companies in the US. However, as companies acquire more capital, the investment gap widens drastically. US companies are twice as likely as their European counterparts to secure funding of USD15 million or more[65]. This disparity is reflected in unicorn[66] numbers: Europe had 286 unicorns in 2024, compared to nearly 400 in China and over 1,600 in the U.S. Across Europe, there are also substantial disparities in the concentration of unicorns, with Germany, France, Sweden, and the Netherlands demonstrating the highest concentrations[67].

---

[56] Global market share of the ICT market from 2013 to 2024 | Statista.
[57] JRC Publications Repository - The 2024 EU Industrial R&D Investment Scoreboard
[58] JRC Publications Repository - The 2024 EU Industrial R&D Investment Scoreboard
[59] The EU Startup and Scaleup Strategy Choose Europe to start and scale: EUR-Lex - 52025SC0555 - EN - EUR-Lex
[60] For example, pilot production lines for advanced chips.
[61] The "Valley of Death" is commonly known as a market failure. Here we refer to the "second valley of death" where companies find it hard to obtain the required growth finance. Private investors are deterred by unproven ability to scale-up rapidly and generate cash flow. "First valley of death" is associated to pre-commercial development of a product, with still high technical risks and unproven ability to generate revenue. In both cases investments are seen too risky by private investors, and are, therefore, often not funded.
[62] The EU Startup and Scaleup Strategy Choose Europe to start and scale, COM(2025) 270 final.
[63] State of European Tech 24: soet2024_report.pdf
[64] Ibid.
[65] Ibid.
[66] A privately owned start-up company, which has reached a valuation of $1 billion or more
[67] State of the Digital Decade 2025 report | Shaping Europe's digital future

The EU's financial markets, marked by fragmentation coupled with a general risk-averse culture, continue to impede investment in sectors with high growth potential and innovation. In addition, the EU's precautionary approach based on *ex-ante* regulation may also hamper innovation. The Draghi report states that there are around 100 tech-focused laws, and 270 regulators involved in digital networks. These put European companies at a disadvantage in a technology market driven by 'winner-takes-most dynamics'[68]. However, the EU's proactive stance on regulatory standards in emerging fields like AI and data governance presents a strategic opportunity. By harmonizing rules and fostering globally recognized frameworks, the EU could position itself as a leader in shaping the future of technology, turning regulatory rigour into a competitive advantage rather than a constraint.

Another challenge to tackle is the growing dependence of EU's digital future on consistent energy supply. Data centre electricity use is projected to nearly double to 945 terawatt-hours (TWh) by 2030, slightly exceeding Japan's current total electricity consumption, primarily driven by AI and rising demand for digital services[69]. Europe's elevated energy expenses impede expansion in specific digital sectors, increasing the costs of digital infrastructure investments and delaying the pace of digital transformation.

In addition, the rising complexity of the challenges we confront—such as criminal abuse of digital disinformation, cyberattacks, deepfakes, and manipulation through algorithms—underscores the urgent need for widespread digital literacy and a competent ICT workforce. Only slightly more than half of Europeans (55.6%) possess basic digital skills, which are critical for competitiveness and societal resilience against online threats, such as those targeting information integrity, mental health, and the safety of minors. The supply of ICT professionals with advanced expertise remains limited, exacerbated by a significant gender disparity[70].

Consequently, a 'transformative shift in investment landscape'[71] is required to meet the EU's digital objectives. For the next MFF, the investment gap in digital has been estimated in the Draghi report at EUR 150 billion per year. The report emphasises that such gap may only be addressed with a much higher leverage of private investment. This also raises the challenge of taking into consideration economic security and technological sovereignty challenges in more market-driven financing.

9.2 Future digital investments

Across consultations, stakeholders stress the urgency of designing a programme that contributes to the **green transition, addresses the environmental impact of advanced digital technologies and supports the optimisation of their energy efficiency**. EU citizens, companies, and NGOs also advocated for a **more accessible and inclusive** programme fostering public **trust** and enhancing **digital literacy.** In their views, prioritising inclusivity, ethical practices, accessibility

[68] E.g. The Draghi report on EU competitiveness
[69] Energy and AI – Analysis - IEA
[70] 2025 State of the Digital Decade package | Shaping Europe's digital future
[71] State of the Digital Decade 2025 report | Shaping Europe's digital future

and the twin transitions could increase Digital Europe's impact and further consolidate its role as a key driver of Europe's digital future.

When asked about future funding priorities, stakeholder feedback underscores the need to prioritise **AI technologies** (80%) as a cornerstone for innovation and competitiveness. In addition to AI, advanced connectivity, navigation systems, digital technologies, robotics, and autonomous systems are recognised as critical for strategic support.

On stakeholders' priorities, most respondents highlighted the lack of **access to advanced computing resources and AI applications** that can drive innovation and improve services in various sectors, **the lack of advanced digital skills and capabilities,** and **lack of cybersecurity and trust in digital systems.**

Stakeholders also emphasise the need for Digital Europe to reduce reliance on non-European technologies to maximise its strategic benefits. They suggested to further harness the full power of **open source**, a public good that allows free use, modification, and redistribution of technologies, and to activate the potential of the vibrant open-source community, which could enhance tech sovereignty and reduce reliance on third countries.

The preliminary findings of two other studies on the future investment needs in digital research and deployment[72] also stress the need for investments in technologies critical for resilience, such as:

- **AI, data, cybersecurity** (in trustworthy and explainable AI, frontier AI, agentic AI, AI applications, for example, in smart healthcare, data driven public sector, data driven connected mobility and related cybersecurity solutions;
- **microelectronics** and **photonics** (in particular, 'More-than-Moore', RISC-V, Chiplet and modular architectures, 3D stacking and wafer-level packaging, advanced packaging and 3D integration and green electronics);
- the future deployment of **quantum technologies** (quantum computing, quantum key distribution, quantum MRIs, quantum gravimetry, etc,);
- **next-generation internet;**
- **extended reality** (for simulation in science, training, education and digital twins);
- technologies for interoperability (for example, for secure cross-border data exchange), and
- **cross-technology deployment**, for example combining HPC, AI and quantum computing or Cloud-Edge-IoT, AI and data in automotive applications.

In terms of **programme implementation**, the evaluation highlights the potential of expanding **Financial Support to Third Party (FSTP)** schemes to broaden outreach to a wider range of beneficiaries. This mechanism could serve as a tool for distributing public funds to support entities such as start-ups, scale-ups, SMEs, and mid-caps in developing and adopting digital innovations.

[72] To be published in Q1 2026

Furthermore, consultations reveal the need to establish a **fast track from research to deployment** to ensure that relevant cutting-edge results are deployed and brought to the market without any further administrative complexities for applying companies or delays in subsequent funding.

Innovative **public procurement** and pre-commercial procurement could serve as strategic tools to bolster digital sovereignty. By leveraging these mechanisms, the EU can directly drive the development of technologies tailored to its unique needs, ensuring critical infrastructure remains under European control.

A conference on the future of digital investments in the EU organised in the context of the Danish presidency of the Council of the European Union[73] also stressed the importance of public procurements and concluded that future investments in digital deployment need to be more unified merging current programmes and applying simplified rules. The event's conclusions echoed the importance of the increased private investment highlighted in the Draghi report and emphasised the role of public funding in de-risking private investments.

9.3 Digital in the next MFF

On 16 July 2025, the European Commission published its proposals for the next MFF. Several of the shortcomings identified in this evaluation were addressed in the design of the future European Competitiveness Fund[74]. One of the four policy windows of the ECF proposal (Digital Leadership) focuses on digital, from research to scale-up and deployment. Digital activities may also be supported in different sectors through the other policy windows of the proposal. The ECF proposal addresses the identified challenges by:

- simplifying the investment lifecycle: ensuring a seamless transition from research and innovation to manufacturing and large-scale deployment;
- enhancing adaptability: providing flexibility to respond to emerging priorities and evolving technological landscapes;
- mobilising private capital: leveraging loans and equity instruments to attract private sector investment alongside public funds;
- streamlining governance: Reducing administrative complexity through a unified rulebook and harmonised funding rules for applicants (e.g. for alternative, combined, and cumulative support).

Furthermore, to support combination of funding, the ECF proposal permits actions that have received a contribution from another programme to also receive a contribution under ECF funds[75].

[73] Conference | The Future of Digital Investments in the EU, final report to be expected in October 2025
[74] EUR-Lex - 52025PC0555 - EN - EUR-Lex
[75] Ibid.

10.Conclusions

The interim evaluation of the Digital Europe programme highlights the programme's significant progress in advancing the EU's digital capabilities through large-scale infrastructure deployments and the adoption of cutting-edge technologies. Key achievements include the funding of one of the world's fastest and most energy-efficient supercomputers (JUPITER), the establishment of state-of-the-art AI TEFs, and the development of infrastructure to train large-scale AI models while supporting the integration of AI by SMEs. The programme has also established frameworks for cross-border cybersecurity preparedness, trained professionals in advanced digital skills, and driven digital transformation within public services.

Digital Europe has been implemented effectively, generating tangible benefits for a growing number of organisations across the EU and beyond, including in the context of the acceleration of the EU accession process. However, challenges persist, including limited awareness of funding opportunities, complex co-funding requirements, and administrative burdens. The Commission has proactively addressed these issues, introducing targeted measures to streamline processes, enhance accessibility, and improve the overall implementation framework.

The evaluation emphasises the programme's alignment with stakeholders' current and evolving needs, its flexibility in adapting to emerging trends, and its responsiveness to sector-specific priorities. Lessons learnt about both the programming and implementation phase have been used in the design of the next MFF and should continue to inform the ongoing legislative negotiations. Recent developments—such as the heightened importance of digital resilience post-pandemic, the emergence of generative AI, and the shifting geopolitical landscape—have underscored the urgent need for increased investments in sovereign digital infrastructure, cybersecurity, and advanced digital skills. These developments have further reinforced the strategic imperative of securing the EU's strategic autonomy by mitigating critical dependencies on external technologies and systems requiring much larger investments in the future.