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Progress report on multi-country projects

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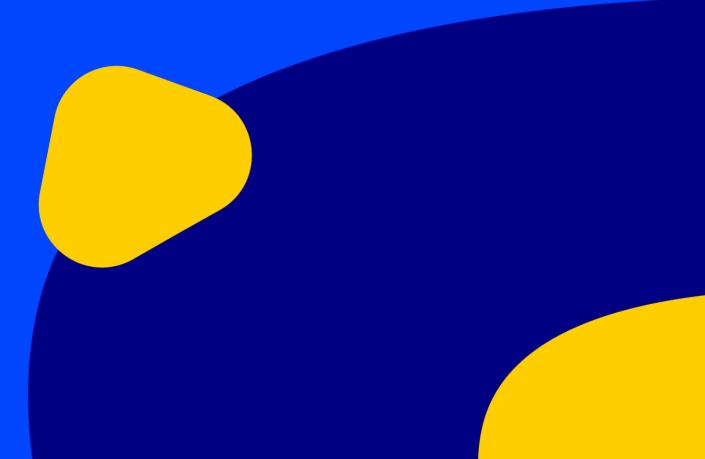
Communication from the Commission to the European Parliament, the Council and the European Economic and Social Committee and the Committee of the Regions

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

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PROGRESS REPORT ON MULTI-COUNTRY PROJECTS



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Introduction

This report looks at the progress of selected multi-country projects (MCPs) and European Digital Infrastructure Consortia (EDICs) between May 2024 and May 2025. As background, we first outline the basic concepts linked to MCPs and EDICs, as outlined in the Digital Decade Policy Programme 2030 Decision¹.

Governance structure for multi-country collaboration

The Digital Decade Policy Programme 2030 (DDPP) translates the vision of a digitally enabled society into a concrete set of targets driving the deployment of the EU's strategic digital capacities. Together with the targets, the DDPP establishes a governance structure enhancing collaboration between the EU and its Member States to identify weaknesses and propose common solutions. Multi-country projects (MCPs) are large-scale projects facilitating the achievement of the digital targets set out in Article 4 of the DDPP Decision, including the EU and the Member States' financing. MCPs are one of the building blocks of this governance structure, providing a tool to drive the collective investment efforts in high priority areas outlined in the DDPP Decision Annex.

Characteristics of multi-country projects:

- enable large-scale projects that one single Member State could not develop on its own;
- pool resources to achieve economies of scale and increase impact;
- help reduce the digital divide between Member States;
- support an interconnected, interoperable and secure Digital Single Market;
- build ecosystems of excellence big enough to attract and retain talent;
- implement flagship initiatives for which cooperation among Member States is important.

Areas of activity for multi-country projects, as listed in the Annex to the DDPP Decision:

- a) European common data infrastructure and services;
- b) endowing the Union with the next generation of low-power trusted processors;
- c) developing the pan-European deployment of 5G corridors;
- d) acquiring supercomputers and quantum computers, connected with the European high performance computing (EuroHPC);
- e) developing and deploying ultra-secure quantum and space-based communication infrastructures;
- f) deploying a network of security operations centres;
- g) connected public administration;
- h) European blockchain services infrastructure;
- i) European digital innovation hubs (EDIHs);
- j) high-tech partnerships for digital skills;
- k) skills and training in cybersecurity;
- other projects which meet all the requirements set out in Article 11 and which become necessary to achieve the general objectives of the Digital Decade Policy Programme 2030 over time due to emerging social, economic or environmental developments.

¹ DECISION (EU) 2022/2481 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 14 December 2022 establishing the Digital Decade Policy Programme 2030

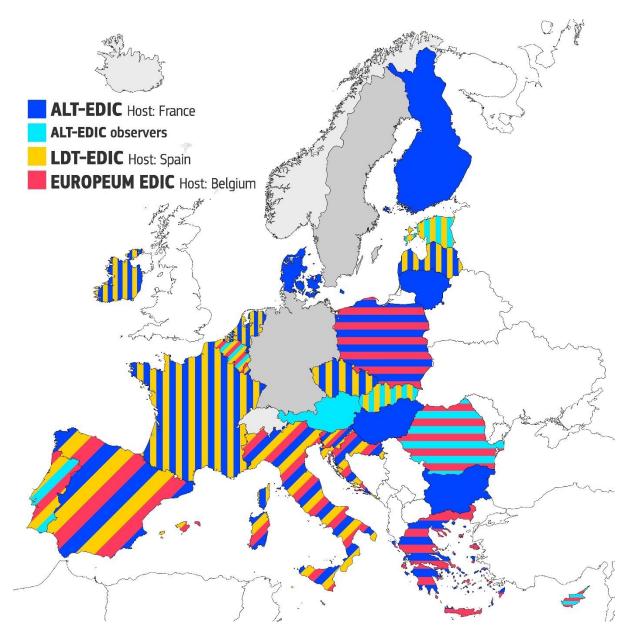
Instruments through which MCPs can be implemented, under Article 11 of the DDPP Decision, are the Joint Undertakings (JUs), European Research Infrastructure Consortia (ERICs), EU's agencies, Important Projects of Common European Interest (IPCEIs) and independent actions of the Member States. Since the adoption of the DDPP, collaboration between Member States and the Commission has been stepped up through the **implementing mechanism introduced by the DDPP**, **namely the European Digital Infrastructure Consortium (EDIC)**. This new legal instrument combines the benefits of a rapid and flexible set-up and the leading role of the Member States in the EDICs' set-up and operations.

As reflected in this Annex, the list of areas of activity for multi-country projects remained stable in the past year, allowing Member States and the European Commission to progress on the many large-scale projects that were already advancing the EU's technological capacities in these sectors. Concerning the individual initiatives, the main developments described below have taken place since May 2024.

- Implementation of the EDICs established in 2024, namely the Alliance for Language Technologies EDIC, the Local Digital Twins towards the CitiVERSE EDIC, and the EUROPEUM-EDIC. There have been incorporations at national level and launch events; and directors have assumed office, and first projects have been launched.
- Further EDICs are currently in preparation, and more initiatives are under consideration for becoming EDICs.
- The IPCEI on Microelectronics and Communication Technologies (IPCEI-ME/CT) and the IPCEI on Next Generation Cloud Infrastructure and Services (IPCEI-CIS), approved mid and late 2023, are now fully operational.
- The Chips JU and the EuroHPC JU are progressing further to deliver on their expanded objectives.

In addition to the development of individual projects and infrastructures, efforts are undergoing to support the development of the EDIC ecosystem. To this end, the first Annual EDIC Gathering is planned for autumn 2025. This event aims to harness synergies, foster knowledge exchange, help identify solutions to common challenges and facilitate strategic discussion among the stakeholders about the future of the EDICs.

1. Existing European Digital Infrastructure Consortia (EDICs)



1.1 Alliance for Language Technologies (ALT-EDIC)

The **Alliance for Language Technologies EDIC** (ALT-EDIC) was established by the Commission on 7 February 2024 through <u>Commission Implementing Decision (EU) 2024/458</u>.

With the seat in Villers-Cotterêts, France, the ALT-EDIC started with 11 founding Members States (Bulgaria, Croatia, France, Greece, Ireland, Italy, Latvia, Lithuania, Netherlands, Poland and Slovenia). Six observing Member States were part of the consortium (Austria, Denmark, Estonia, Malta, Romania and Slovakia). Since May 2025, 17 Member States are members of the EDIC (those above plus Spain, Czechia, Denmark, Hungary, Luxembourg and Finland), and eight Member States are participating as observers (those above

plus Belgium, Cyprus and Portugal, except Denmark, which became a full member). The region of Flanders has been a full member since March 2025.

In 2024, the ALT-EDIC focused on: (i) coordinating the participation of the EDIC in funding mechanisms; (ii) seeking data availability in each participating country; (iii) providing guidance to relevant institutions and companies interested in provisioning, deploying and using solutions based on large language models (LLMs); and (iv) seeking practical steps to integrate the Language Data Space into their services on offer.

The official launch conference of the EDIC took place in March 2025 and presented the objectives of the ALT-EDIC and outlined its strategic priorities. The role of ALT-EDIC is to implement the MCP: Alliance for language technologies in the European Union – ALTEU. This falls under the **European common data infrastructure and services** area of activity listed in the DDPP Annex. The ALT-EDIC seeks to improve European competitiveness, increase the availability of European language data and uphold Europe's linguistic diversity and cultural richness. This will support the creation of LLMs, which are advanced Al models that excel in understanding and generating human-like language. These capabilities, cutting across several applications, are key to the AI transformation. It is therefore important for the EU to ensure that these models embrace the linguistic diversity of the EU. Furthermore, initiatives to create and share available datasets for languages must contribute to improving the capabilities of AI models in addressing the linguistic needs of smaller Member States and language communities with limited language data, empowering users to engage with digital content in their native languages. The supply of high-quality language data will be key for the EU's model developers.

As part of its efforts to support the **European Data Strategy**, the Commission will make high-quality language data from the European institutions available, covering all official European languages.

Finally, as advanced models can effectively handle multiple types of data simultaneously (text, audio, video, images, code, etc.), ALT-EDIC will also open up possibilities for more holistic and comprehensive AI applications across various domains.

The ALT-EDIC's action plan focuses on the five thematic areas described below.

- **Data:** develop a central platform for European language resources and collect high-quality data sets, building on the Language Data Space. Creating strategic data for low-resource languages will be a particular focus.
- **Existing language models:** gather open-source models, fine-tune, reduce and optimise them for use in European SMEs, and provide methodologies for their evaluation, certification and normalisation.
- New language models: launch new open-source models (including models with multimodal capabilities), efficiently coordinate access to EuroHPC computers for EU companies and industries, and provide support to public and private experts to develop new models.
- **Evaluation, certification, and normalisation:** provide methodologies to address potential discrimination and bias introduced by natural language processing.
- **Ecosystem:** develop a start-up incubator for businesses participating in the EDIC, promote links between industry and research, act as a key player of the EU Coordinated plan on AI, bring together and strengthen the Language Technologies (LT) community, provide dedicated support to institutions for investing in LT, and develop cultural programmes based on AI for language.

ALT-EDIC has been fully operational since the beginning of January 2025, following the appointment of its director and staff. The first quarter of 2025 marked the start of two projects funded under the Digital Europe Programme and coordinated by ALT-EDIC, with an additional project currently in preparation.

1.2 Local Digital Twins towards the CitiVERSE - EDIC

The Local Digital Twins – CitiVERSE EDIC was established on 7 February 2024 by <u>Commission Implementing</u> <u>Decision (EU) 2024/459</u>.

The founding Member States on the statutes were Croatia, Czechia, Estonia, France, Latvia, Portugal, Slovenia and Spain. Before the Commission Decision was published, Belgium, Luxembourg and Slovakia also joined the original notification and are considered founding Member States. The constituent assembly was held on 12 December 2024 at the seat of this EDIC (Valencia, Spain), where three new Member States (Italy, the Netherlands and Ireland) joined. The legal establishment process finished in March 2025.

The LDT-CitiVERSE-EDIC delivers on the Commission's priorities for the digital and green transitions and the New European Bauhaus. This EDIC will contribute to the European common data infrastructure and services area of activity, with a focus on the transversal Data Space for Smart Communities, and Climate Neutral Cities initiatives. It will ensure an open digital infrastructure environment and foster an industrial ecosystem for digital twins and a market for EU SMEs and industry. It will also carry out targeted training activities for digital smart city solutions. Strategic business and policy priorities for the LDT-CitiVERSE-EDIC concentrate on the activities below.

- Technical developments: design, development, deployment, and scale-up of EU infrastructures for digital twins; implement the common EU architecture blueprint for the Smart Communities Data Space; develop AI-based solutions for Smart Communities; establish sustainable mechanisms for EU infrastructure; create and run an open-source community for Smart Communities; and liaise with existing EU infrastructures like Destination Earth and the Euro High Performance Computer Joint Undertaking.
- **Cooperation:** determine opportunities for Member States digital transformation with the support of Local and Regional Digital Maturity Assessment System (LORDIMAS); implement an EU-based data strategy and common governance; set out funding schemes and draft joint procurements; develop an active digital strategy; cooperate with other relevant EU initiatives (e.g. European Digital Innovation Hubs (EDIHs), Scalable Cities, EU mission 100 climate neutral cities, eGovernment, European electronic identification (eID), EU Product passport).
- **Communication and dissemination:** capacity-building and concerted actions; assistance to cities in the process of introducing and implementing Digital Twins; transfer of knowledge in relation to scale-up solutions across Europe; share expertise and coordinate mechanisms for an interoperable EU (including standardisation).

This EDIC aims to enrol 40 cities in the new structure, becoming the first pan-European common digital infrastructure serving Smart Communities. The initial roadmap for the LDT-CitiVERSE-EDIC includes two action groups: Infrastructure and Projects.

The **Infrastructure group** will develop the initial business plan after an agreement on the main infrastructures relevant to the LDT-CitiVERSE-EDIC. It will collaborate on the ongoing procurements for the EU LDT Toolbox and focus on synergies with existing official networks of the Commission, the Barcelona Supercomputing Center, the European Committee of the Regions, <u>Living-in.EU</u> and other EDICs. The group's first initiative has been to develop the first Simplified Interoperable Middleware Platform (SIMPL)-based EU data space (for Smart Communities).

The **Projects group** will coordinate efforts in projects relevant to the EDIC and prepare joint proposals for call for proposals, in particular Digital Europe Programme calls, and ensure an inclusive approach to member cities in the EDIC.

1.3 EUROPEUM-EDIC

The European Blockchain Partnership and European Blockchain Services Infrastructure EDIC (EUROPEUM-EDIC) was created on 21 May 2024 by <u>Commission Implementing Decision (EU) 2024/1432</u> with nine members (representing Belgium, Croatia, Cyprus, Italy, Greece, Luxembourg, Portugal, Romania and Slovenia). Poland joined shortly after the creation of the EDIC, and Spain joined in early 2025, increasing the number of members to 11. Other Member States, including Sweden, have also indicated their intention to join as observers, and others could join at later stage. The seat of the EDIC is in Brussels, Belgium.

The mission of EUROPEUM-EDIC is to establish the European Blockchain Services Infrastructure (EBSI) and operate it in order to deliver EU-wide cross-border services, in particular public services. The EDIC will therefore contribute to the European blockchain services infrastructure MCP area of activity. EUROPEUM-EDIC should also support cross-border cooperation between public authorities on decentralised technologies, facilitate the interoperability of solutions with other technologies, including at protocols, smart contracts, and applications level, and contribute to creating better conditions for innovation.

EUROPEUM-EDIC intends to move EBSI to its production phase in 2025. It will provide a sovereign infrastructure for supporting cross-border, national and local services. It will help reinforce public services and the implementation of policies by providing capacity and trust models for sharing and verifying a large range of certification and credentials, for instance in the area of education. It will support the creation of new types of registries for managing the rights of businesses and organisations, for instance, to enable the operational verification of rights of brand owners for anti-counterfeiting purposes. The model developed in collaboration with the European Union Intellectual Property Office (EUIPO) can apply to various other applications, like the implementation of digital product passports.

2. European Digital Infrastructure Consortia (EDICs) in preparation

2.1 Progress towards setting up the Innovative Massive Public Administration interConnected Transformation Services EDIC (IMPACTS-EDIC)

Following the pre-notification of the IMPACTS-EDIC submitted in May 2023, the consortium submitted its formal application in December 2024; this was coordinated by Greece and the other founding members (Croatia, Hungary and Poland). Cyprus and the Netherlands requested to join as observers. The assessment is ongoing; consultation of the Digital Decade Committee on the draft Commission decision is expected in 2025.

The IMPACTS-EDIC aims to **connect public administrations to provide advanced public services across Europe.** It is considered to be the operational arm of the Interoperable Europe Act, leveraging investment in joint development and the deployment of interoperability solutions and cross-border services.

The IMPACTS-EDIC intends to develop reusable, digital solutions for public administrations that will help implement EU policies that can be further disseminated through the Interoperable Europe Board (the governance body established by the Interoperable Europe Act). In addition, the IMPACTS-EDIC aims to contribute to the **priorities of the Interoperable Europe Agenda** by providing solutions and implementing actions identified in the annual strategic roadmap. IMPACTS-EDIC contributes to the **Connected Public Administration** MCP area of activity.

Several work streams aim to contribute to the creation of innovative public services and new reusable interoperable solutions, exploiting existing European and national initiatives, namely:

- European Trans-border Information Architecture (BOARD-IA);
- data analytics platform for public administration in the EU;
- a platform for the co-creation of cross-border public services;
- a regulatory sandbox for data exchange among Member States;
- EU Digital Identity Wallet (EUDIW) a secure, personalised and user-controlled tool enabling citizens to prove their identity, and share documents, and sign digitally.
- secure and interoperable cross-border network for the exchange of data;
- zero distance public administration, aiming to ensure that citizens and businesses have access to necessary public services and information with minimal administrative barriers and delays, regardless of location.

Meanwhile, a consortium, composed of Greece as the coordinator and Croatia, Finland, Hungary, Luxembourg, Poland and Portugal, is supported through a Coordination and Support Action (under the Digital Europe Programme's 2024 work programme). The consortium will create a roadmap and pave the way for another MCP (INVEST CSA).

2.2 Progress towards setting up the Cybersecurity Skills Coalition EDIC

The Communication on the Cybersecurity Skills Academy proposes governance through an EDIC. Greece is leading the efforts to develop the Cybersecurity Skills Coalition EDIC (CSC-EDIC) as part of a consortium that

also includes Cyprus, Austria, Croatia and Slovenia. The formal application is expected to be submitted by Q3 of 2025, and the EDIC should be operational by the end of 2025.

The CSC-EDIC intends to contribute to **addressing cybersecurity skills gap in Member States**, thereby reinforcing the competitiveness, growth, and resilience of the EU. This commitment is set out in the Communication of the Commission to the European Parliament and the Council 'Closing the cybersecurity talent gap to boost the EU's competitiveness, growth, and resilience ('The Cybersecurity Skills Academy')². The EDIC will be dedicated to **supporting key organisations**, **including the European Commission**, **European Union Agency for Cybersecurity (ENISA)**, and the European Cybersecurity Competence Centre (ECCC), in the effective implementation of the Cybersecurity Skills Academy initiative. The CSC-EDIC also aims to carry out proactive actions to promote the upskilling and reskilling of professionals, with a particular emphasis on the needs of Small and Medium Size Enterprises (SMEs) and public administrations in the area of cybersecurity skills that address the requirements of recently adopted EU legislation and initiatives, including the NIS2 Directive, the Cyber Resilience Act and the European Action Plan on the Cybersecurity of Hospitals and Healthcare providers.

2.3 Progress towards setting up the Digital Commons EDIC

The informal working group for the Digital Commons EDIC is chaired by France. The working group is composed of a core group of Member States (France, Germany and the Netherlands), with Belgium and Slovenia as observers. The working group expects to send a full formal application to set up an EDIC by Q3 of 2025. The host country of the EDIC will be France.

The Digital Commons EDIC aims to pursue these overall objectives: (i) **build a European community for digital commons**; (ii) **facilitate access to funding**; (iii) **support the maintenance, development and scale-up of digital commons**; (iv) **enhance the public contribution to strategic commons**; (v) **participate in digital commons projects**.

The EDIC's concrete missions include: (i) acting as a one-stop shop for different stakeholders, such as the open-source communities, developers, adopters, and promoting the use of open-source digital solutions; (ii) becoming an incubator for the development and maintenance of strategic digital commons; and (iii) accelerating the roll-out and implementation of joint projects, such the European digital workplace (based on France and Germany's Open Desk/La Suite Numérique).

The Digital Commons EDIC aims to contribute to the following MCP areas of activity: (i) European common data infrastructure and service; and (ii) Connected public administration. It will also contribute to some of the general objectives of the DDPP (Article 3), such as promoting a human-centred, inclusive transparent, secure and open digital environment and ensuring digital sovereignty. The EDIC will create synergies with the European Digital Innovation Hubs (EDIHs).

2.4 Progress towards setting up the Agri-Food EDIC

The working group on Agri-Food EDIC chaired by France began work in November 2023. It submitted the pre-notification in summer 2024. France, Belgium, Croatia, Italy, and Romania signed the pre-notification with the intention to become a member. Austria, Germany, Spain, Latvia, Netherlands and Slovenia intend to become observers. There are more countries participating in the working group. The submission of a draft application to the Commission is envisaged by Q3 of 2025.

The Agri-Food EDIC is expected to seize the opportunities of digital and data technologies to: (i) reduce administrative burdens on the agri-food sector; (ii) strengthen competitiveness and the sustainability of

² COM/2023/207 final

the sector; and (iii) **improve data availability and sharing**. A central element of its work will be the implementation of a digital Farm ID in line with the EU Digital Identity Wallet / eID system, which is expected to reduce the administrative burden on Business-to-Business and Business-to-Government exchanges especially in cross-border contexts, and to harness the power of AI. It is planned to capitalise on existing and future assets, including the forthcoming **Common European Agricultural Data Space**. The Agri-Food EDIC will contribute to the **European common data infrastructure and services** MCP area of activity.

2.5 Progress towards setting up the Genome EDIC

On 31 March 2023, the special group of national representatives in the **1+ Million Genomes initiative** endorsed the principal approach of creating an EDIC to run the future European Genomic Data Infrastructure (GDI).

The 1+MG initiative aims to enable secure access to genomics and the corresponding clinical data across **Europe for better research, personalised healthcare and health policymaking**. The GDI project co-funded under the Digital Europe Programme will set up the **European Genomic Data Infrastructure** by 2026. In 2024, five countries achieved the technical capability to provide secure access to genomic datasets and linked health data. The future EDIC aims to ensure the sustainable operation of the European Genomic Data Infrastructure in line with an agreed data governance and a mandate drawn up by Member States in the EDIC statutes. The Genome EDIC should contribute to the **European common data infrastructure and services** MCP area of activity.

In June 2023, nine Member States (Belgium, Bulgaria, Czechia, Denmark, Estonia, Croatia, Luxembourg, Spain and Finland) pre-notified an EDIC application. Luxembourg provisionally offered to host the EDIC. The governmental group in Pillar I of the GDI project, gathering representatives from more than 20 Member States, acts as the EDIC informal working group. Besides the reflection on the requirements and features of the future EDIC, the group works on the data governance and legal arrangements for the European Genomic Data Infrastructure and its alignment with the European Health Data Space. In March 2024, a task force in the working group was launched and started to work on the EDIC application. Complex legal discussions are still ongoing about the EDIC's role and its compliance with the EU data protection rules on genomic data. Member States that are ready to commit to setting up the EDIC are expected to sign a statement of intent by the summer of 2025.

2.6 Progress towards setting up the Cancer Image Europe (EUCAIM) EDIC

The <u>Cancer Image Europe</u> platform (established under the EUCAIM project funded under Digital Europe Programme) will be a cross-border, interoperable, and secure infrastructure. It will link and make large amounts of cancer image data and linked clinical information available to clinicians, researchers and innovators. Its goal is to support developing, benchmarking, testing and piloting innovative AI-based tools for personalised cancer diagnosis and treatment. As of January 2025, a pilot infrastructure with prototypefederated learning is available, and new cancer image databases from additional sites and countries are being added. A final release of the platform is planned for the end of 2025. Establishing an EDIC would ensure the sustainable operation and long-term viability of the Cancer Image Europe data infrastructure after the EUCAIM project ends. This solution would also enable alignment and connection with the European Health Data Space regulatory framework.

The working group on EUCAIM EDIC was launched on 3 August 2023. Spain, France, Italy, Latvia and Czechia participate with officially nominated representatives. Portugal, Lithuania, Norway, Croatia, Greece, Germany and Belgium participate as observers or are represented by institutions participating in the EUCAIM project. Spain is the coordinating country, and the seat of the EDIC should be in Valencia. The EUCAIM EDIC aims to contribute to the **European common data infrastructure and services** MCP area of activity. The prenotification of the EDIC application was submitted to the European Commission on 21 January 2025 by Spain, France and Latvia.

2.7 Progress towards setting up the EDIC for Mobility and Logistics

In June 2023, the Netherlands, Finland and Germany submitted a pre-notification for a Mobility and Logistics Data EDIC, later renamed EDIC for Mobility and Logistics (EDIC M&L).

The EDIC for Mobility and Logistics aims to contribute to the effective implementation of the **European common data infrastructure and services** MCP area of activity, **with a focus on the mobility and transport sector**. It seeks to boost the deployment of data- and Al-driven innovations by: (i) supporting the coordinated deployment of cross-border use cases (e.g. freight visibility in multimodal logistics chains, traffic management); and (ii) bringing together Member States and key actors to share knowledge and coordinate and draw up collective agreements as a basis for sustainable digital infrastructure for mobility and logistics.

There is a group of 11 Member States that are interested in becoming members: Austria, Germany, Spain, Finland, France, Ireland, Italy, Netherlands, Lithuania, Sweden and Slovakia. Since 2023, this group has made significant progress in preparing a formal application. Other private and public organisations have expressed their interest to participate in the initiative. At this stage, the Netherlands is expected to host the EDIC, and Spain and Italy have confirmed their intention to become members, subject to formal approval.

2.8 The possible set-up of the EU Startup Nations Alliance (ESNA) EDIC

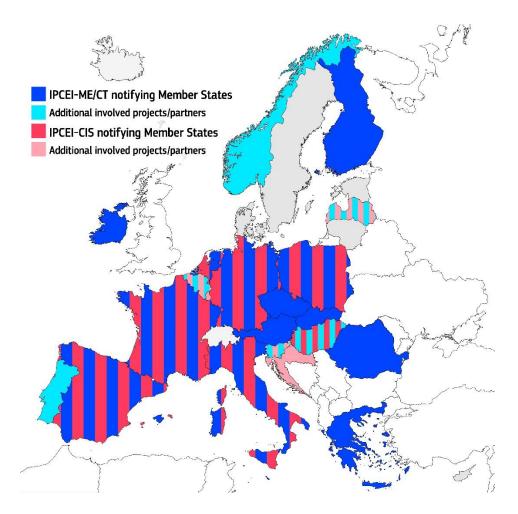
The **EU Startup Nations Standard (EU SNS) initiative** was launched in March 2021 with the aim of mobilising Member States to deliver the best framework conditions and regulatory environment for startups. Member States take action within their national powers in eight areas of policy (the eight 'standards of excellence') set out in the political declaration of the EU SNS³ signed by ministers from 27 countries (all Member States (except Hungary) and Iceland) in March 2021. To move from its political aspirations to an operational reality, a legal entity – the **Europe Startup Nations Alliance (ESNA)** - was established in December 2021 under Portuguese law.

ESNA is a first-of-a-kind approach driven by Member States to **address the fitness of the regulatory framework for start-ups**. ESNA has a full-time management board and EUR 8.5 million funding for its first four years of operations. To date, 21 of the 27 signatory countries have completed the formal process for joining ESNA. ESNA's 21 member countries now represent 86% of the EU's GDP and 93% of its population, and they are home to 82% of the EU's unicorns. In addition, Ukraine joined ESNA in 2024 with non-voting rights.

Since summer 2024, discussions about a **transformation of ESNA into an EDIC** have been gaining momentum. This includes preparing draft statutes for the EDIC and mobilising political support (via the European Council TELCO Working Group) for the transition of ESNA into an EDIC. Moreover, at the end of 2024, ESNA secured a grant of EUR 1 million from Horizon Europe to support scaling up its operations and prepare for transitioning to an EDIC. Subject to confirmation of broad Member State support, ESNA aims to submit a formal EDIC proposal to the Commission in late-Q2 or Q3 of 2025. If set up, the EDIC would be well-positioned to contribute to MCP areas of other projects, under point (I) of the DDPP Annex.

³ https://startupnationsstandard.eu/files/SNS-declaration.pdf

3. Important Projects of Common European Interest (IPCEIs)



3.1 IPCEI on Microelectronics and Communication Technologies (IPCEI-ME/CT)

In June 2023, the Commission approved the IPCEI-ME/CT jointly prepared and notified by 14 Member States (Austria, Czechia, Finland, France, Germany, Greece, Ireland, Italy, Malta, the Netherlands, Poland, Romania, Slovakia and Spain). The IPCEI involves 68 projects from 56 companies, which closely cooperate with more than 40 associated companies, including from other Member States (Belgium, Hungary, Latvia, Portugal, and Slovenia) and Norway. In total, 20 European countries are involved. In addition, around 600 indirect partners, companies and organisations have collaboration agreements with one or more direct participants of the IPCEI-ME/CT and therefore benefit from its dissemination activities.

The IPCEI-ME/CT is now fully operational, and participants gathered at the two-day general assembly in November 2024, the biggest project's event, to discuss technical aspects, report on activity, and networking. Reporting to the Commission on the current activities is due in July 2025, and the next general assembly is scheduled for November 2025.

Member States will provide around EUR 8 billion in public funding, which is expected to unlock an additional EUR 13 billion in private investment.

The IPCEI-ME/CT concerns research and development projects covering microelectronics and communication technologies across the whole value chain from materials and tools to chip designs and manufacturing processes. These projects aim to enable the digital and green transitions by creating innovative microelectronics and communication solutions and by developing energy-efficient and resource-saving electronics systems and manufacturing methods. They contribute to the technological advancement of many sectors, including communications, autonomous driving, AI and quantum computing.

3.2. IPCEI on Next Generation Cloud Infrastructure and Services (IPCEI-CIS)

In December 2023, the Commission approved, under State aid rules, the IPCEI on Next Generation Cloud Infrastructure and Services (IPCEI-CIS). The initiative was jointly notified by seven Member States (France, Germany, Hungary, Italy, the Netherlands, Poland, and Spain).

Participating Member States support the initiative with up to EUR 1.2 billion in public funding for the implementation of 19 highly innovative projects. Moreover, the initiative is expected to stimulate an additional EUR 1.4 billion in private investment. IPCEI-CIS has already launched around 120 projects across Europe.

Beyond IPCEI-CIS direct participants, the wider IPCEI-CIS ecosystem includes over 90 indirect partners, including large, medium, and small businesses, start-ups, and research institutions from five more EU Member States (Belgium, Croatia, Latvia, Luxembourg, and Slovenia).

IPCEI-CIS is the first IPCEI in the cloud and edge computing domain. It is developing the first interoperable and openly accessible European data processing ecosystem, the multi-provider cloud to edge continuum. It will develop data processing capabilities and software and data sharing tools that enable federated, energy-efficient and trustworthy cloud and edge distributed data processing technologies and related services. The innovation provided by the IPCEI-CIS will open up a wide new range of possibilities for European businesses and the public, advancing the digital and green transitions in Europe.

The IPCEI-CIS will be a key initiative in driving the adoption of the technology that is necessary to achieve two of the Digital Decade's targets: (i) 75% of EU companies using cloud, AI or big data; and (ii) 10 000 climate neutral highly secure edge nodes deployed across Europe by 2030.

3.3. IPCEI in Microelectronics (IPCEI-ME)

The first IPCEI in Microelectronics was approved in December 2018, with 32 participants from five countries: Germany, France, Italy and the United Kingdom, and Austria (which joined the IPCEI-ME in July 2019). The overall approved State-aid funding came to around EUR 1.9 billion with an additional EUR 6.5 billion of private investments. All companies completed their respective projects' activities by 2024. A number of Member States and companies that participated in the IPCEI-ME are now also involved in the IPCEI-ME/CT (see Section 3.1).

3.4. Potential IPCEI candidates

On 27 November 2024, the high-level meeting of the Joint European Forum for IPCEI endorsed the proposal of participating Member States to start working on the design of three IPCEI candidates in the field of digital (and one more in the area of clean tech). IPCEI candidates in the field of digital:

 IPCEI-AI: Continuum of federated and distributed Artificial Intelligence services: this IPCEI will aim to develop and deploy next generation AI technologies to create a first ever Artificial Intelligence (AI) ecosystem for Europe, facilitating the access of EU industry to federated computing resources and open, reusable and scalable AI foundation models;

- IPCEI-ECI: Deploying large-scale federated Edge computing infrastructure and services: this IPCEI will aim to deploy a sovereign next generation of federated edge-node compute infrastructure that will be the necessary technological foundation for the European digital Single Market;
- IPCEI-AST: Advanced Semiconductors Technologies: This IPCEI will aim to create a novel European ecosystem of highly innovative semiconductor technology applications that addresses the most strategic requirements of the EU industrial sectors boosting the EU's competitiveness and resilience.

4. Joint Undertakings

4.1 Chips Joint Undertaking (the former Key Digital Technologies (KDT) JU)

The Chips JU was set up under <u>Council Regulation (EU) 2021/2085</u> and its amendment, <u>Council Regulation (EU)</u> <u>2023/1782</u>. It entered into force at the same time as the **Chips Act** on 21 September 2023. The Chip JU's former name is **KDT JU** – KDT JU provided extensive support for industrially-driven research, technology development, and innovation in the area of electronic components and systems. **The new Chips JU's scope was extended in order to implement the main part of the Chips for Europe Initiative** set up under the Chips Act, namely: (i) setting up a chips design platform; (ii) enhancing existing advanced pilot lines and developing new ones; (iii) building capacity for accelerating the development of quantum chips and associated semiconductor technologies; and (iv) establishing a network of competence centres across the EU.

The Chips JU is a tripartite partnership composed of the **Commission** (representing the EU), **participating states** (Member States and countries associated to Horizon Europe and/or the Digital Europe Programme) **and private members**, i.e. three industry associations: Aeneas, Inside and European Platform on Smart System Integration (EPoSS). It receives funding from Horizon Europe (up to EUR 2.725 billion) and the Digital Europe Programme (up to EUR 1.450 billion). Participating states match this amount, and the private members commit to contributing at least EUR 2.5 billion.

In the framework of the **Chips for Europe Initiative**, in 2024, the Chips JU has, through open calls, selected five **pilot lines**. These are backed by EU funding of EUR 1.85 billion from the Horizon Europe and Digital Europe programmes and complemented by matching funding from the participating states. These pilot lines focus on five key areas: (i) beyond 2 nm leading-edge system-on-chip; (ii) fully depleted silicon-on-insulator applications; (iii) advanced packaging; (iv) wide-band gap materials; and (v) photonic integrated circuits. Additionally, six framework partnership agreements have been signed for pilot lines focusing on **quantum chip technology**. These pilot lines are expected to be implemented via specific grant agreements with an allocation of EUR 145 million in funding and a matching amount from the participating states.

To strengthen the European chip design ecosystem, the initiative plans for the development of a cloud-based **design platform**. For this purpose, a **platform coordination team** has been selected to assist the Chips JU in procuring the platform, to select design enablement teams, and to provide financial and technical support to fabless start-ups. A European network of competence centres in semiconductors was created, with the selection of 31 **competence centres** across all Member States and Norway, backed by around EUR 100 million in EU funding, to be matched by participating states.

The Chips JU also continues to support R&D collaborative projects with Horizon Europe funding for **electronic components and systems**. Beyond the general open Innovation Actions (IA) and Research and Innovation Actions (RIA) calls based on the Strategic Research and Innovation Agenda, topics include: (i) calls for automotive hardware components; (ii) frameworks for software-defined vehicles and sustainable manufacturing; and (iii) a joint call with South Korea. These topics were backed by total EU funding of EUR 216 million in 2024 and supplemented by participating states and industry.

The Chips JU's role is key to achieving the Chips Act's objectives, in particular, to bridge the gap between research, innovation and production, thereby facilitating the commercialisation of innovative ideas.

4.2 European High Performance Computing Joint Undertaking (EuroHPC)

The EuroHPC JU is the initiative making it possible to carry out MCP initiatives in the area of supercomputing and quantum computing. It does so by **developing**, **deploying**, **extending**, **and maintaining an EU worldleading federated**, **secure**, **and hyper-connected supercomputing**, **quantum computing**, **service**, **and data infrastructure**. The EuroHPC JU enables Member States to coordinate their supercomputing strategies and **pool their investments together to acquire supercomputers and quantum computers**. They can then **deliver concrete services across Europe** to a wide range of academic, industrial, SME and public users with applications that impact people's everyday lives and the challenges affecting the planet. This approach is necessary as the purchase and ownership of supercomputers and quantum computers requires **high levels of investments** from both the public and the private sectors. The estimated costs are as follows:

- mid-range supercomputer -- investment per system: EUR 30-50 million
- high-end supercomputers --investment per system: EUR 150-500 million;
- quantum computers (as stand-alone machines or as accelerators of supercomputers) –investment per machine: EUR 50-250 million.

To date, the EuroHPC JU has already procured nine supercomputers, located across Europe: (i) LUMI – Finland; (ii) Leonardo – Italy; (iii) MareNostrum 5 – Spain; (iv) MeluXina – Luxembourg; (v) Karolina – Czechia; (vi) Discoverer – Bulgaria; (vii) Vega – Slovenia; (viii) Deucalion – Portugal; and (ix) Jupiter – Germany. Through the EuroHPC Access Calls, these supercomputers are available to users from the public sector, industry or academia regardless of their location in Europe.

In 2024, the EuroHPC JU received a new mandate to develop and run AI factories. They will be centred around EuroHPC supercomputing facilities and will support the growth of a highly competitive and innovative AI ecosystem in Europe. In December 2024, the JU selected the first seven sites that will host the first European AI Factories to be deployed in 2025 across Europe. These sites are in Finland, Germany, Greece, Italy, Luxembourg, Spain and Sweden.