



Commission approves up to €1.2 billion of State aid by seven Member States for an Important Project of Common European Interest in cloud and edge computing technologies

Brussels, 5 December 2023

The Commission has approved, under EU State aid rules, an Important Project of Common European Interest ('IPCEI') to support research, development and first industrial deployment of advanced cloud and edge computing technologies across multiple providers in Europe.

The project, called **IPCEI Next Generation Cloud Infrastructure and Services (IPCEI CIS)**, was jointly notified by seven Member States: France, Germany, Hungary, Italy, the Netherlands, Poland, and Spain.

The Member States will provide up to €1.2 billion in public funding, which is expected to unlock additional €1.4 billion in private investments. As part of this IPCEI, 19 companies, including small and medium-sized enterprises ('SMEs'), will undertake 19 highly innovative projects.

IPCEI CIS

IPCEI CIS is the first IPCEI in the cloud and edge computing domain. It concerns the development of 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 IPCEI CIS will enable a new spectrum of possibilities for European businesses and citizens, advancing the Digital and Green transition in Europe.

The participating companies will develop an open-source software that will allow for real-time and low-latency (i.e., a few milliseconds) services by distributed computing resources close to the user, thereby reducing the need to transmit large volumes of data to centralised cloud servers. The individual projects cover the entire cloud edge continuum, from the basic software layer to sector-specific applications.

These projects aim at enabling the digital and green transition by: (i) **providing software** that will develop the necessary infrastructure-related capabilities to build the base layers of the edge cloud stack; (ii) **developing a common reference architecture** to serve as a blueprint for how to set up and operate a cloud and edge system; (iii) **developing** a set of advanced **cloud and edge services** that can be deployed seamlessly across networks of providers; and (iv) **developing sector-specific cases** (for instance in the energy, health, and maritime sectors).

The research, development and first industrial deployment phases will run between 2023 and 2031, with timelines varying depending on the project and the companies involved. First novel result of the IPCEI – an open-source reference infrastructure – may be expected around the end of 2027. At least 1,000 direct and indirect highly qualified jobs are expected to be created during these phases, and many more in the commercialisation phase.

The Commission's assessment

The Commission assessed the proposed IPCEI under EU State aid rules, more specifically its 2021 [Communication on Important Projects of Common European Interest](#) ('IPCEI Communication'). Where private initiatives supporting breakthrough innovation would not materialise because of the significant risks such projects entail, the IPCEI rules enable Member States to jointly fill the gap to overcome these important market failures. At the same time, the IPCEI rules ensure that the EU economy at large benefits from the supported investments and limit potential distortions to competition.

The Commission has found that the IPCEI CIS fulfils the required conditions set out in its Communication and is in line with State aid rules.

In particular, the Commission concluded that:

- IPCEI CIS directly contributes to achieving several **EU objectives** of a digital, greener, more secure, resilient and sovereign economy as set out in key EU policy initiatives, such as the [Europe's Digital Decade](#), the [European Green Deal](#), the [European Data Strategy](#), and the [2030 Digital Compass](#).
- All 19 projects that form part of the IPCEI are highly ambitious, as they aim at **developing ground-breaking technologies that go beyond the current state-of-the-art at global scale** and will allow major advances in data processing technologies.
- The IPCEI also involves significant technological and financial risks. Therefore, **public support is necessary to provide incentives to companies to carry out their individual projects**.
- Aid to individual companies is limited to what is **necessary, proportionate and does not unduly distort competition**. In particular, the Commission has verified that the total planned maximum aid amounts are in line with the eligible costs of the projects and their funding gaps. Furthermore, if projects receiving large amount of aid turn out to be very successful, generating extra net revenues, the companies will return part of the aid received to the respective Member State (**claw-back mechanism**).
- This IPCEI will produce **significant positive spill-over effects** for the non-participating companies, competitors, and final users throughout Europe. The results and knowledge of the project will be widely shared by participant companies with the European industry and scientific community, beyond the companies and the countries that are part of the IPCEI. In particular, the participants will: (i) **beyond** their usual open-source software practices and business models, grant **permissive, non-restrictive open-source software licenses** to any interested party and **actively engage with and contribute to** the development of open-source **communities**; (ii) **provide access** to interested parties **to at least 20% of the capacity of the edge nodes and laboratories employed** in their projects; (iii) **expand the developed technologies** to additional economy sectors; (iv) perform targeted trainings, produce self-standing technical materials, engage in conferences, publications, partnerships with universities and research organisations; and (v) license intellectual property rights at **fair, reasonable, and non-discriminatory terms**.

Funding, participants and structure of the IPCEI

The IPCEI involves **19 projects from 19 companies**. These direct participants will closely cooperate to develop together a first, EU-wide and interoperable multi-provider cloud edge continuum in Europe.

The figure below presents the overall structure of IPCEI CIS, including the individual workstreams:



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The 19 projects are part of the wider **IPCEI CIS ecosystem**, involving more than 90 indirect partners, including large, medium and small enterprises, start-ups, and research organisations located in five additional EU Member States (Belgium, Croatia, Latvia, Luxembourg, and Slovenia). Public support to projects handled by research organisations do not require the Commission's approval, as it does not qualify as aid when certain conditions are met. The indirect partners, which seek limited aid amounts, can obtain the public support under the [General Block Exemption Regulation](#), which does not need to be notified to the Commission for approval. Their projects are not considered part of the IPCEI as such.

The figure below presents the IPCEI CIS ecosystem showing the direct participants and the indirect partners:

Wider IPCEI CIS Ecosystem

Direct Participants

4iG  Arsys Internet  Atende Industries  Atos  CloudFerro 
Deutsche Telekom  E-Group ICT Software  Engineering Ingegneria Informatica 
Fincantieri  Leaseweb Global  Oktawave  OpenNebula Systems  Orange 
Reply  SAP  Siemens  Telefónica España  TIM  Tiscali 

Indirect Partners

ADVA Optical Networking  Aecorsis  Airbus Operations  Amadeus 
Amiral Technologies  Amsterdam Internet Exchange  Armadillo  Aspired 
Bass  BetterBe  BIT  Capital Energy Service  CGI France 
CNRS IRISA  CNRS LAAS  CNRS UGA ERODS  CNRS UT 3 IRIT SEPIA 
DataVaccinator  DATI Group  DB Netz  DE-CIX Management 
Deerns Nederland  Diehl Aerospace  e-BO Enterprises  elevait  ENEA 
Engie Laborelec  Ericsson  Eurofiber Nederland  Excellium Services 
Fachhochschule Dortmund  Fondazione Bruno Kessler  Gdańsk University of Tech 
Gigas Hosting  H1 Systems  Hashnet  i3d.net  Igea 
Indra Soluciones Tecnológicas de la Información  Infobip  Info Support 
Infrachain  INRIA LILLE - Nord Europe  INRIA Nancy- GRAND EST 
Institut Imagine  Internet Institute  Ionos  Iskra itrust consulting 
Kontron  Lacroix Electronics Cesson  Lacroix Sofrel  Limebird 
Lindner  Luxembourg House of Cybersecurity  Mondragon Corporación 
Nederlandse Organisatie voor toegepast-natuurwetenschappelijk onderzoek (TNO)  N+P Informationssysteme 
Ningaloo  No Blue Screen System  Operator Chmury Krajowej  Phoenix Systems 
Pro-bit  Provenrun  Proximus  Recog. AI  Result  RHEA Group 
Rheinmetall Technology Center  Robert Bosch  RYAX Technologies 
Secunet Security Networks  Stichting Nationale Beheersorganisatie Internet Providers  SYSGO 
Telemach  ThreeFold Tech  Tilde  United Biometrics  Universite Bretagne Sud 
Universite Caen Basse Normandie  Universite de Lille  Universite de Versailles Saind-Quentin-en-Yvelines 
Universiteit Twente  Universiteit van Amsterdam  University of Latvia (IMCS) 
Ventspils High Ventspils Technology Park  WestfalenWIND IT  Zejn 

Several Member States (Germany, Italy, Poland, and Spain) included their participation in the IPCEI CIS in their Recovery and Resilience Plans. These Member States have the possibility to fund their projects through the Recovery and Resilience Facility.

More information on the amount of aid to individual participants will be available in the public version of the Commission's decision, once confidentiality issues have been resolved with Member States and third parties.

Background

The Commission's approval of this IPCEI is part of the wider Commission efforts to ensure a digital, greener, more secure, resilient, and sovereign European economy.

Today's decision concerns the seventh integrated IPCEI approved under EU State aid rules. It is the fourth IPCEI approved on the basis of the [2021 IPCEI Communication](#) that sets out the criteria under which several Member States can support transnational projects of strategic significance for the EU under [Article 107\(3\)\(b\) of the Treaty on the Functioning of the European Union](#). The Communication aims at encouraging Member States to support highly innovative projects that make a clear contribution to economic growth, jobs and competitiveness.

The IPCEI Communication complements other State aid rules, such as the [General Block Exemption Regulation](#) (GBER) and the [Framework for State aid for research and development and innovation](#), which allow supporting innovative projects whilst ensuring that potential competition distortions are limited. The GBER enables innovative IPCEI-related projects to receive aid up to €50 million without requiring notification to the Commission, while allowing them to still be recognised as part of the ecosystem created by the IPCEI.

The IPCEI Communication supports investments for research, development and innovation, first industrial deployment on condition that the projects receiving this funding are highly innovative, of European relevance and do not cover mass production or commercial activities. They also require extensive dissemination of new knowledge and spill-over commitments that will spread the benefits of the projects throughout the EU, as well as a detailed competition assessment to minimise any undue distortions in the internal market.

As part of an effort to support a transparent, inclusive, and faster design of IPCEIs, on 17 May 2023 the Commission has [published](#) a **Code of Good Practices** ("Code") on [DG COMP's dedicated IPCEI website](#). The Code is based on the knowledge, experience and lessons learnt on the State aid assessments for previous and on-going IPCEIs. The aim of this Code is to ensure a more transparent, inclusive, faster and streamlined design and assessment of IPCEI projects. It constitutes a manual of good practices addressed to national authorities, the Coordinator Member State selected by the national authorities, companies benefitting from aid based on the IPCEI rules, and the Commission services. The Code is particularly useful for Member States with little or no experience with the IPCEI instrument.

In addition, the Commission has [set up](#) the Joint European Forum for Important Projects of Common European Interests (JEF-IPCEI). The objective of the forum is to identify areas of strategic EU interest for potential future IPCEIs and to increase the effectiveness of the IPCEI process. The JEF-IPCEI brings together experts from Member States and the Commission services, as well as representatives from the industry, academia, and other stakeholders where relevant.

The non-confidential version of the decisions will be made available under the case numbers SA.102498 (France), SA.102517 (Germany), SA.102520 (Hungary), SA.102519 (Italy), SA.102516 (The Netherlands), SA.102527 (Poland) and SA.102514 (Spain) in the [State Aid Register](#) on the [competition](#) website once any confidentiality issues have been resolved. New publications of state aid decisions on the internet and in the Official Journal are listed in the [State Aid Weekly e-News](#).

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Quotes:

This Important Project of Common European Interest is the first one in the cloud and edge computing domain. The participating Member States provide up to €1.2 billion in public funding, expected to unlock an additional €1.4 billion in private investments. The IPCEI will provide for highly ambitious research, necessary to enable the uptake of innovative data processing applications and services for European businesses, public administrations, and citizens. Today's decision makes sure that public support is well targeted and sufficient to enable the project to pursue its ambitious goals, while safeguarding the level playing field and ensuring that strong positive spill-overs can be generated throughout the Union.
Commissioner Didier Reynders, in charge of competition policy - 05/12/2023

The IPCEI approved today is crucial to deliver breakthrough innovation on Cloud and Edge technologies that fulfil European requirements for interoperability, data privacy, sustainability and cybersecurity. It will also provide the technologies and solutions to reach our Digital Decade Strategy 2030 objectives: a 75% of cloud uptake by EU enterprises and more than 10.000 edge nodes across Europe. With this IPCEI, Europe will reinforce its innovation leadership in next generation data processing services.
Commissioner Thierry Breton - 05/12/2023

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