

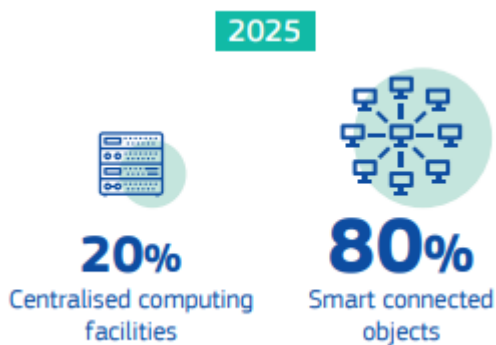
Cloud computing

The Commission aims to enable access to secure, sustainable, and interoperable cloud infrastructures and services for European businesses.



The global data volume is growing very fast. Whereas cloud computing happens mostly in large data-centres today, by 2025 this trend will reverse: 80% of all data is expected to be processed in smart devices closer to the user, known as edge computing.

The availability of both edge and cloud computing is essential in a computing continuum to ensure that data is processed in the most efficient manner. Energy-efficient and trustworthy edge and cloud infrastructures will be fundamental for the sustainable use of edge and cloud computing technologies.



Cloud computing is a key objective to increase Europe's data sovereignty as outlined in the European Commission's Data Strategy, Digital Strategy, Industrial Strategy and the EU recovery plan.

The European Commission has launched a **European Alliance on Industrial Data, Edge and Cloud**, which will feature the development of several work streams, related to key EU policy goals:

- **Joint Investment in cross-border cloud infrastructures and services** to build the next generation cloud supply, including to enable **Common European Data Spaces**
- **EU Cloud Rulebook** for cloud services, which will provide a single European framework of rules, transparency on their compliance and best practices for cloud use in Europe
- **A European marketplace for cloud services**, where users will have a single portal to cloud services meeting key EU standards and rules

EU countries have signed a joint declaration on cloud where they expressed their will to collaborate towards the creation of a European cloud.

Other initiatives related to cloud computing are:

- The **Regulation on the free flow of non-personal data**, which, together with the General Data Protection Regulation, raises legal certainty for cloud users by ensuring the free movement of all data in the EU.
- **Data portability**: the free flow of non-personal data Regulation also builds trust through facilitating a self-regulatory work on cloud switching and cloud security. This self-regulatory work was addressed by the Cloud Stakeholder Groups. It resulted in the recently finalised SWIPO data portability Codes of Conduct and the CSPCERT Recommendations for a candidate European cloud security certification scheme.
- **Cybersecurity**: at the request of the Commission, the European cybersecurity agency ENISA is working on a single European cybersecurity certification scheme for cloud services. The scheme will provide increased assurance to businesses, public administrations and citizens that their data is secure wherever they are stored or processed.
- **Data protection in the cloud**: the Commission has facilitated a platform for industry to develop Codes of Conduct for data protection in the cloud. This has resulted in two Codes of Conduct that are currently reviewed by the European Data Protection Board. More information about the processing of personal and non-personal data in the cloud can be found in the Commission's Guidance on mixed datasets.
- **Standardised Cloud Service Level Agreements (SLA)** that guarantee the quality of cloud services in the European market.
- **Cloud use by the financial sector**: financial service providers increasingly use cloud services to remain competitive. There must be clear requirements in place for outsourcing agreements between financial entities and cloud service providers. As announced in the Fintech Action Plan, the European Commission is currently working together with stakeholders, supervisors and regulators to define standard contractual clauses for such outsourcing agreements.
- **A European mapping of data flows** that will allow to assess the value of data flows to the European digital economy.

In parallel, cloud computing and edge computing will be among those digital technologies that will contribute to achieving the sustainability goals of the European Green Deal in areas such as farming, mobility, buildings and manufacturing.

The European Union also supports the development of cloud computing in Europe with research and innovation actions under the Horizon 2020 programme.

EU-funded projects will work on novel solutions for federating cloud infrastructures. New cloud-based services will have to respond to high-standard requirements with regard to data protection, performance, resilience and energy-efficiency. The services and infrastructures will have to meet the future digitisation needs of industry and the public sector. Addressing these challenges will also be part of and contribute to the technological ambitions of the Next Generation Internet (NGI).

In addition, the EU intends to invest €2bn via the European Data Strategy in a European High Impact Project that will federate energy-efficient and trustworthy cloud infrastructures and related services. Cloud technologies that have been developed within Horizon 2020-funded research and by market actors will be deployed via the Connecting Europe Facility 2 (for cloud infrastructures interconnection) and Digital Europe (for cloud-to-edge services and cloud marketplaces) Programme.

Cloud Computing brochure (January 2021)

European Alliance for Industrial Data, Edge and Cloud

Joint declaration on cloud

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The Commission has published the results of a study analysing the economic impact of Open Source Software and Hardware on the European economy.

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Commission launches alliances for
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The European Commission has kick-started two new Industrial Alliances: the Alliance for Processors and Semiconductor technologies, and the European Alliance for Industrial Data, Edge and Cloud.

PRESS RELEASE | 09 November 2020
Green and Digital: study shows technical and policy options to limit surge in energy consumption for cloud and data centres

The Commission has just published the results of a study for greener cloud services and data centres. Results show that energy consumption of data centres in EU Member States is expected to increase from 2.7% of the electricity demand in 2018 to 3.2% by 2030. The study provides technical and policy options to limit this increase.

PRESS RELEASE | 15 October 2020
Commission welcomes Member States' declaration on EU cloud federation

The Commission welcomes the Joint declaration by 25 EU Member States on building the next generation of cloud in Europe. Advancing European cloud offers is essential to increase the competitiveness of European businesses and provide European citizens, as well as public administrations and companies everywhere, with greater choice regarding the trustworthy data processing infrastructure and services that they need to develop future data-driven innovation and emerging technologies, such as 5G/6G and artificial intelligence.

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European Alliance for Industrial Data, Edge and Cloud

The European Alliance for Industrial Data, Edge and Cloud aims to foster the development and deployment of next generation edge and cloud technologies.

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See Also

A European Strategy for data

The strategy for data focuses on putting people first in developing technology, and defending and promoting European values and rights in the digital world.

Source URL: <https://digital-strategy.ec.europa.eu/policies/cloud-computing>