EUDAT INCREASING OPPORTUNITIES FOR SCIENCE AND SOCIETY: THE EUROPEAN CLOUD INITIATIVE

Did you know that Europe is the largest producer of scientific data in the world? Unfortunately insufficient and fragmented infrastructure results in major data losses and this "big data" is not being exploited to its full potential to generate new knowledge and fuel innovation.

To address this challenge and to give Europe a global lead in the data-driven economy, improve competitiveness and cohesion, the European Commission put forward in April 2016 its **European Cloud Initiative**. The European Cloud Initiative, entailing plans for a European Open Science Cloud and an underpinning European Data Infrastructure (EDI), represents a vision to ultimately strengthen EU's competitiveness in digital technologies and in innovation and to enable users and society at large to reap the benefits of data-driven science:

- The **European Open Science Cloud (EOSC)** will offer Europe's 1.7 million researchers and 70 million science and technology professionals a virtual environment with free at the point of use, open and seamless services for storage, management, analysis and re-use of research data, across borders and scientific disciplines. EOSC will furthermore provide a secure environment where privacy and data protection are guaranteed by design, based on recognised standards, and where users can be confident concerning data security and liability risks.

- The **European Data Infrastructure (EDI)**, once fully implemented, will underpin the European Open Science Cloud deploying the high-bandwidth networks and the supercomputing capacity necessary to effectively access and process large datasets stored in the Cloud.
This infrastructure will allow fully unlocking the value of Big Data and digital by default.

Our goal is to create a European Open Science Cloud to make science more efficient and productive and let millions of researchers share and analyse research data in a trusted environment across technologies, disciplines and borders.

Carlos Moedas, Commissioner for Research, Science and Innovation

Building on solid foundations: European E-Infrastructures

EOSC and EDI need not to be constructed from scratch as Europe already has considerable e-infrastructures for researchers including a number of sector-specific ones. The question will then be how to best federate existing e-infrastructures to ensure that researchers can seamlessly access them as a single service catalogue.

Thanks to these e-infrastructures, research institutes across Europe use high-speed networks, take advantage of distributed computing, use high-performance supercomputers, enjoy open-access publications repositories and catalogues, but also, as in the case of EUDAT, take advantage of data storage and other research data management services.

What is an e-infrastructure?

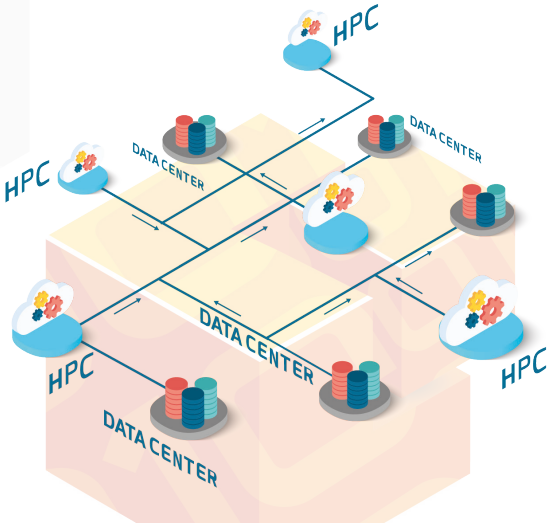
A research environment in which all researchers - whether working in the context of their home institutions or in national or multinational scientific initiatives - have shared access to unique or distributed scientific facilities (including data, instruments, computing and communications), regardless of their type and location in the world

Data services across borders and domains:
EUDAT The Collaborative Data Infrastructure

EUDAT's vision is to enable European researchers and practitioners from any research discipline to preserve, find, access, and process data in a trusted environment, as part of a Collaborative Data Infrastructure (CDI). Conceived as a network of collaborating, cooperating centres, EUDAT combines the richness of numerous community-specific data repositories with the permanence and persistence of some of Europe's largest scientific data and computing centres.

The EUDAT Collaborative Data Infrastructure is a defined data model and a set of technical standards and policies adopted by European research data centres and community data repositories to create a single European e-infrastructure of interoperable data services. The scope of the CDI covers data management functions and policies for upload and retrieval, identification and description, movement, replication and data integrity.

The EUDAT CDI is realised through ongoing collaboration between service providers, both generic and thematic and research communities working as part of a common framework for developing and operating an interoperable layer of common data services.



Whether you represent a research community interested in publishing its metadata, are a scientist who does not have adequate facilities for storing and sharing your data with colleagues worldwide, or are an end user who wants to search and access research data, EUDAT can support you. Covering both access and deposit, from informal data sharing to long-term archiving, and addressing identification, discoverability and computability of both long-tail and big data, EUDAT services seek to address the full lifecycle of research data.

To find out more and use EUDAT services visit EUDAT's website at
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EUDAT receives funding from the European Union's Horizon 2020 programme - DG CONNECT e-Infrastructures. Contract No. 654065