
NFDI, EOSC, GaiaX: Three Clouds – One Goal?



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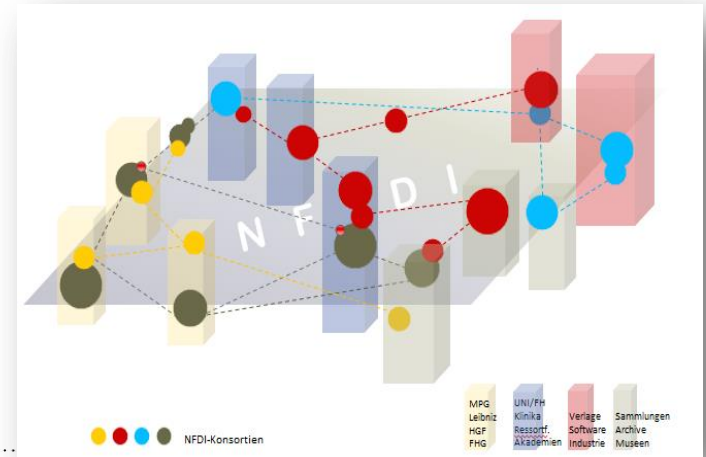
Three „Clouds“





NFDI – A new, sustainable level of networking

- NFDI across existing pillars in the science system
- Distributed, networked infrastructure for data producers & users
- Designed by infrastructures and research communities
- Service portfolios organised along subject/thematic domains
- Science-led design



Corner Stones of NFDI?

- **Goal:** Networked infrastructure for research data management from different disciplines
 - **Consortia:** well-balanced team of infrastructures and research communities
 - **Data:** scientific data, but explicit role for data from the "private sector"
 - **Management:** NFDI e.V., i.e. Directorate, Board of Trustees, Scientific Senate, Member's Meeting
 - **Financing:** National funding programme
 - **Participation:** Through membership in consortia and/or NFDI e.V.
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NFDI-Consortia in Physics



Data from photon and neutron experiments



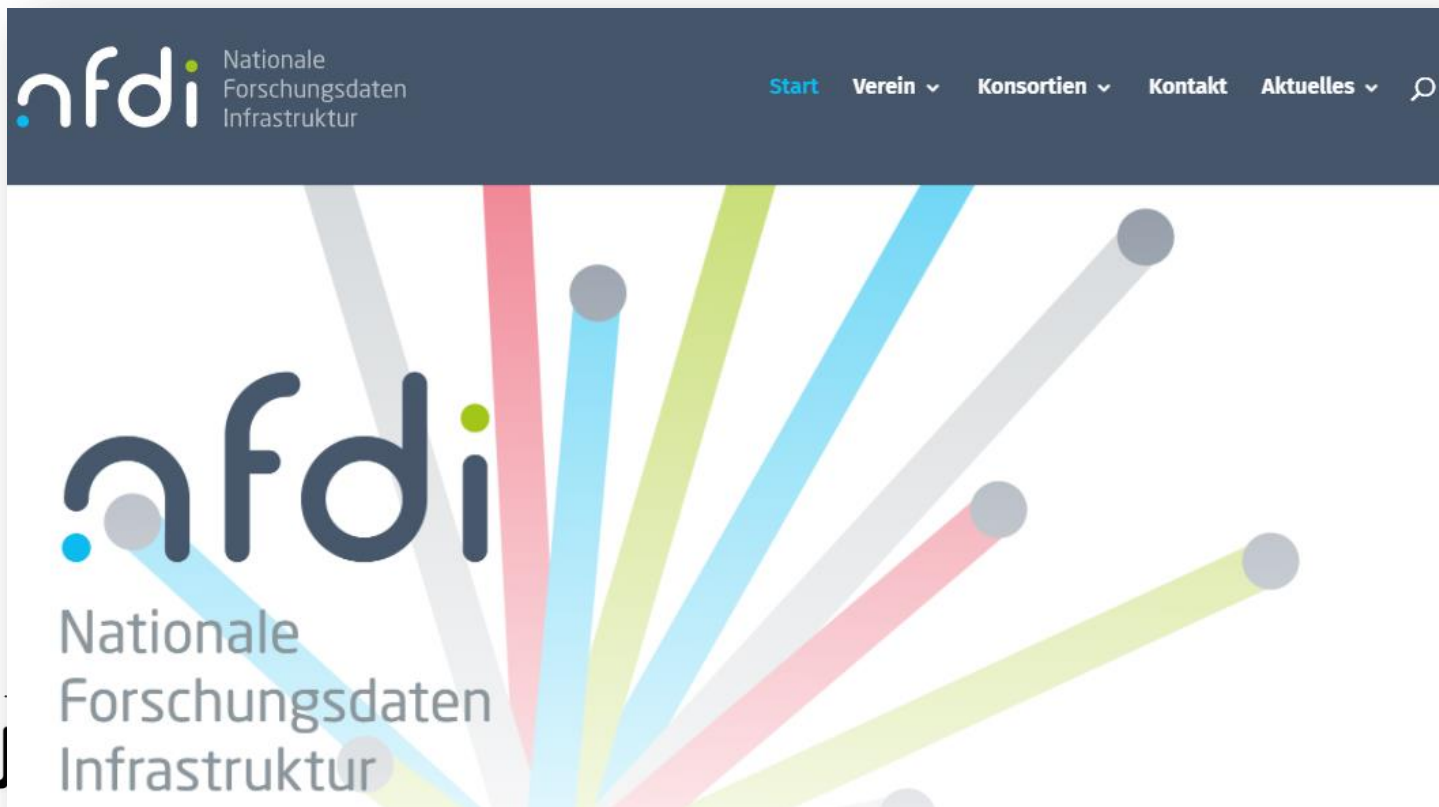
FAIR data infrastructure for condensed matter physics
and chemical physics of solids



Particles, universe, nuclei and hadrons for the NFDI

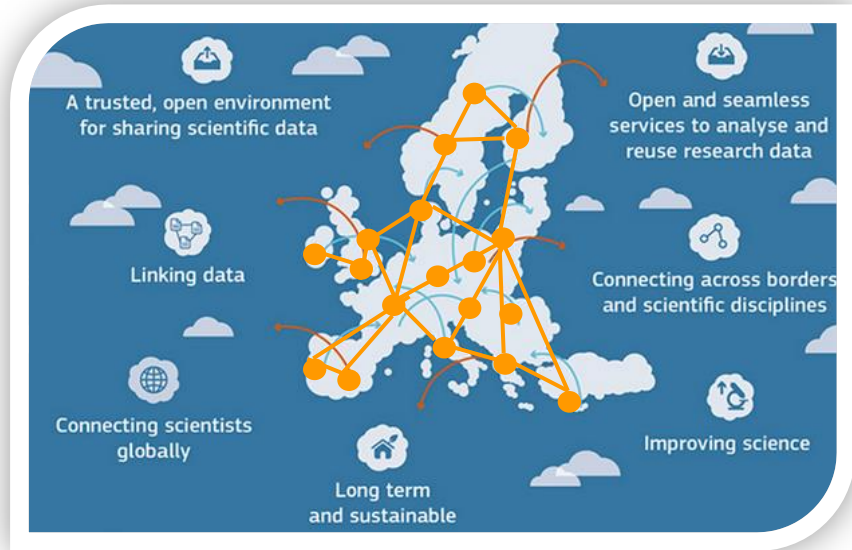
NFDI e.V. Homepage

(<https://www.nfdi.de>)

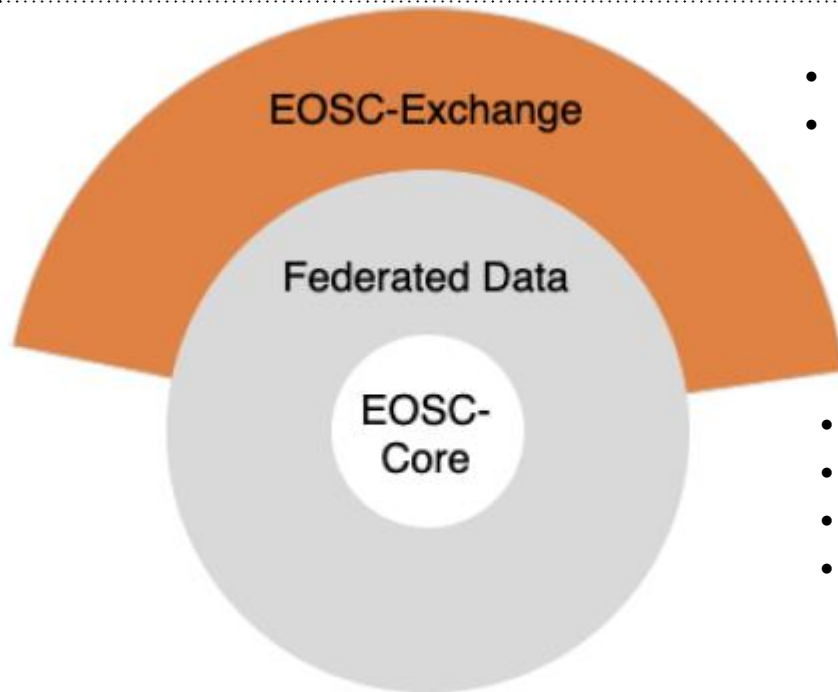




European Open Science Cloud



Lines of development of the EOSC



- **Digital marketplace** for service offers
- **Services**, e.g. storage, analysis, transfer

- **Naming** of data and services (PID)
 - **Findability** of data and services
 - **User Identity** (AAI)
 - **Trusted Certification**
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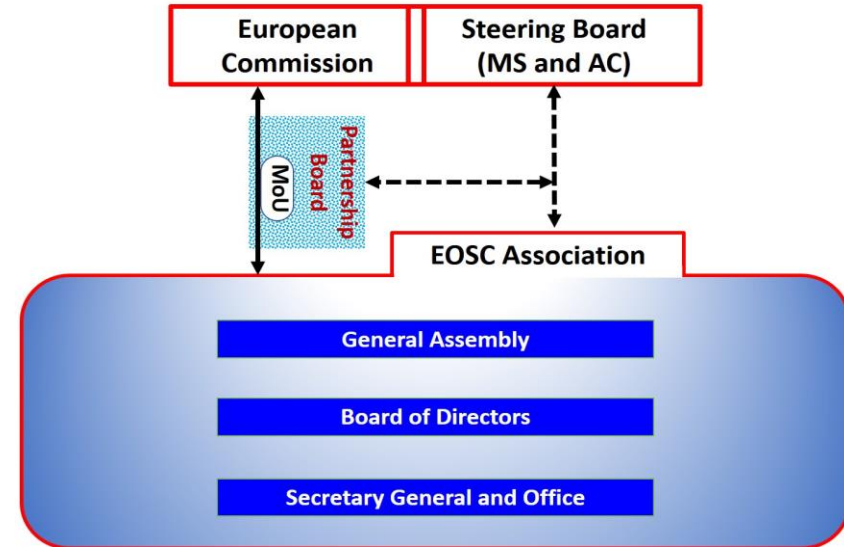
Corner Stones of EOSC?

- **Goal:** Web of FAIR data and related services, Virtual space where science producers and consumers come together, « Data made in Europe »
- **Consortia:** Projects funded within H2020 and Horizon Europe, Procurement
- **Data:** Scientific Data and private sector data as of 2023
- **Management:** see next slide
- **Financing:** Horizon Europe (500 Mio Euro) and in-kind by MS (500 Mio Euro)
- **Participation:** Member of Observer in EOSC Association

EOSC Governance

- The EU represented by the EC
- The European research community represented by the **EOSC Association**
- EU countries and countries associated with Horizon Europe represented through a **Steering Board**

Governance of the EOSC Partnership



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Task Forces to strategically develop EOSC

Implementation of EOSC

- Rules of Participation compliance monitoring
- PID policy and implementation
- Researcher engagement and adoption

Technical challenges on EOSC

- Technical interoperability of data and services
- Infrastructure for quality research software
- AAI Architecture

Metadata and data quality

- Semantic interoperability
- FAIR metrics and data quality

Research careers and curricula

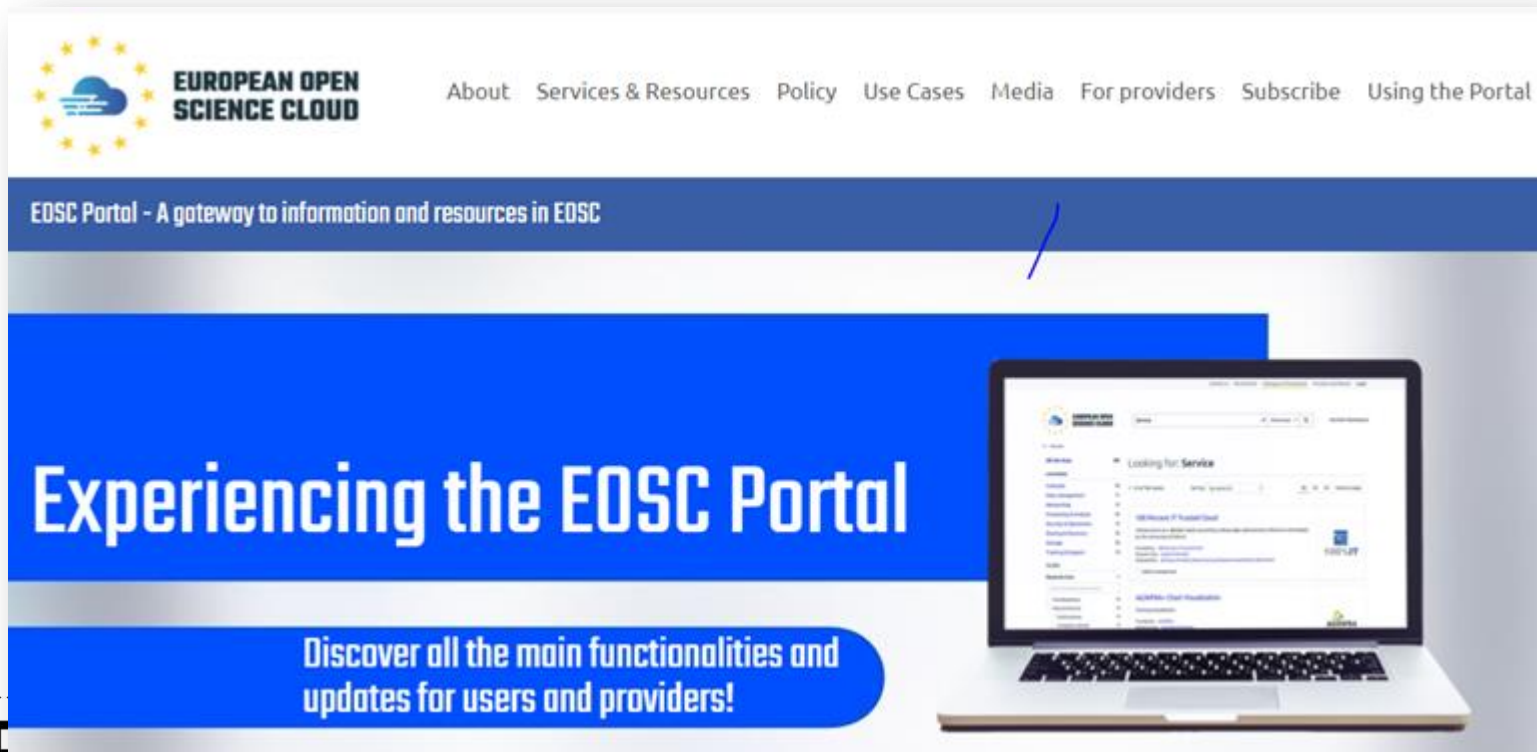
- Data stewardship curricula and career paths
- Research careers, recognition and credit
- Upskilling countries to engage in EOSC

Sustaining EOSC

- Defining funding models for EOSC
- Long-term data preservation

EOSC Portal

(<https://www.eosc-portal.eu>)



The image shows a promotional banner for the EOSC Portal. The top section features the EOSC logo (a blue cloud with a white 'E' and a yellow sun) and the text 'EUROPEAN OPEN SCIENCE CLOUD'. To the right is a navigation menu with links: 'About', 'Services & Resources', 'Policy', 'Use Cases', 'Media', 'For providers', 'Subscribe', and 'Using the Portal'. Below this is a dark blue banner with the text 'EOSC Portal - A gateway to information and resources in EOSC'. The main part of the banner has a large blue background with the text 'Experiencing the EOSC Portal' in white. Below this, a blue rounded rectangle contains the text 'Discover all the main functionalities and updates for users and providers!'. On the right side, a laptop is shown displaying the EOSC Portal interface, which includes a search bar, a sidebar with categories like 'About', 'Services & Resources', 'Policy', 'Use Cases', 'Media', 'For providers', 'Subscribe', and 'Using the Portal', and a main content area titled 'Looking for Service'.

Project GAIA-X

*A Federated Data Infrastructure as the Cradle
of a Vibrant European Ecosystem*



Gaia-X

<https://www.data-infrastructure.eu/GAIAX/Navigation/EN/Home/home.html>

- Initiated by ministries of economics in DE and FR
- 15 Gaia-X Hubs in Europe
- **Key Objectives:**
 1. Data sovereignty: Cloud offerings for digital sovereignty
 2. Data availability: Trusted data infrastructure
 3. Innovation: digital ecosystem that creates innovative products

Advanced Smart Services

(Cross-) Sector Innovation/
Marketplaces/Applications

Data Spaces

Interoperable & portable (Cross-) Sector
data-sets and services

GAIA-X Federation services

Federated & distributed for
interoperability Trust & Sovereignty
services

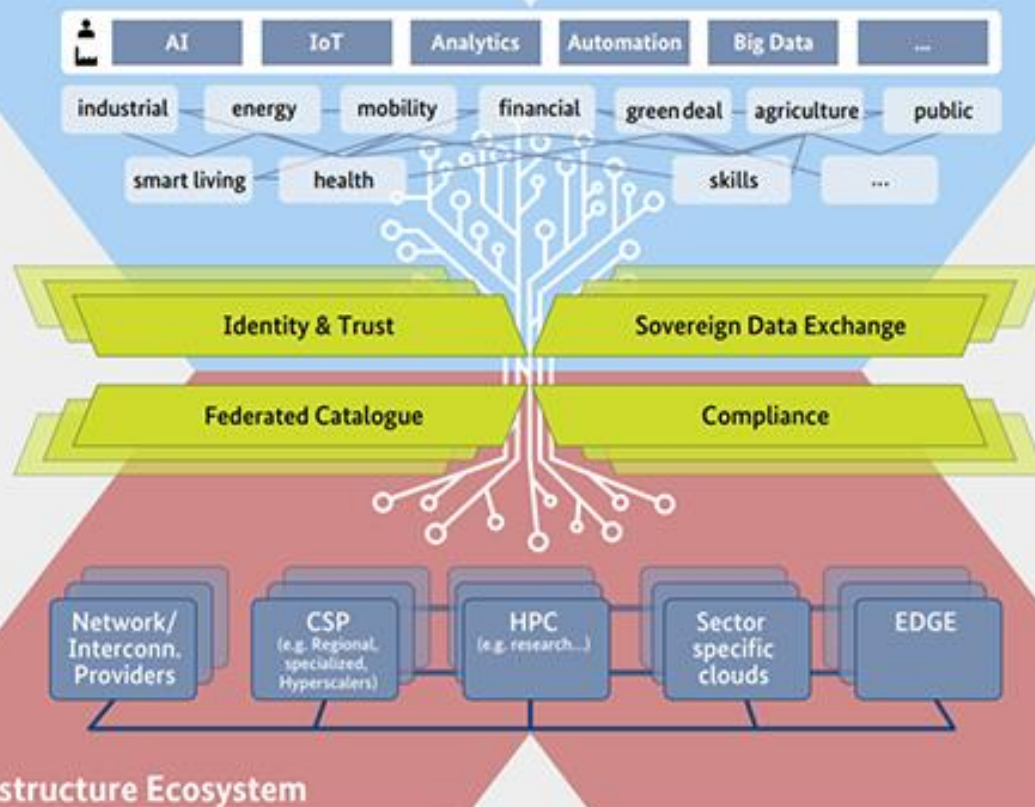
Portability, Interoperability & Interconnectivity

Technical: Architecture of Standards
Commercial: Policies

Compliance

Legal: Regulation & Policies

Data Ecosystem



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Leibniz-informationszentrum
Wirtschaft
Leibniz Information Centre
for Economics

Corner Stones of Gaia-X

- **Goal:** Data infrastructure from Europe for Europe
- **Consortia:** well-balanced teams from private sector and research institutions
- **Data:** data from "private sector" along the EC Data Spaces
- **Management:** see next slide
- **Financing:** National funding programmes (e.g BMWi), Membership Fees
- **Participation:** Membership in Gaia-X Association

Gaia-X Governance



Corner Stones of Gaia-X

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Gaia-X

(<https://www.gaia-x.eu/>)



NFDI, EOSC, Gaia-X: Three Clouds – One Goal?

- **Three Clouds: No**, but federated infrastructures
 - **One goal? Yes**, but different approaches and focuses
 - Interaction **NFDI and EOSC**
 - Not explicit, but implicit by NFDI-consortia
 - Interaction **EOSC and Gaia-X**
 - Two workshops to identify synergies, more planned
 - Interaction **NFDI and Gaia-X**
 - BMBF project FAIR Data Spaces to demonstrate synergies
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