EOSC concept and opportunities

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🔗 eosc-hub.eu
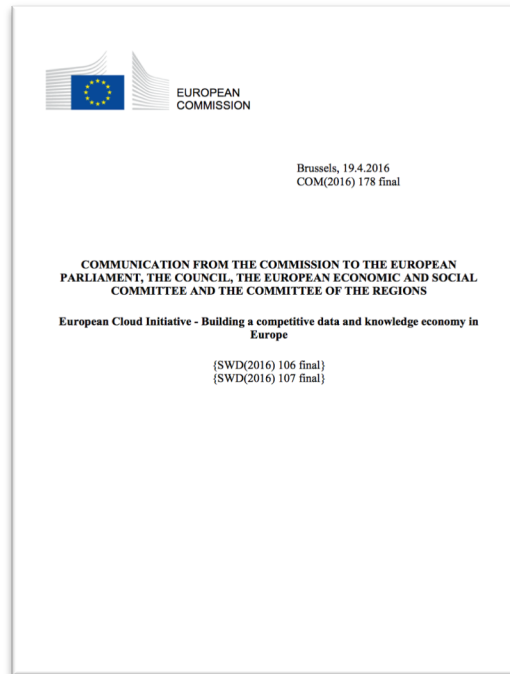
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Outline

- Europen Open Science Cloud – A short history
- EOSC-hub
  - Introduction
  - Our services
  - 5 ways to engage
- Next events

EOSC - Problem statement

*European Cloud Initiative by
the European Commission (April 2016)*

1. How to maximise the incentives for **sharing data** and to increase the capacity to **exploit them**?
2. How to ensure that **data can be used as widely as possible**, across scientific disciplines and between the public and the private sector?
3. How better to **interconnect** the existing and the new **data infrastructures** across Europe?
4. How best to **coordinate the support available** to European data infrastructures as they move towards exascale computing?

"…a trusted, open environment for the scientific community for storing, sharing and re- using scientific data and results…"

"…by 2020…"

What happened since April 2016…

- ◉ EC activities:
  - - 1st EOSC High Level Expert Group ([final report]())
  - - 2nd EOSC HLEG ([final report]())
  - - EOSC summits (2017, 2018)
  - - EOSC implementation Roadmap (April 2018) ([link]())
    - -6 action lines (Archi., Data, Services, Access & Interf., Rules, Governance)
  - - [EOSC Portal]() launch (Nov 2018)
  - - EOSC Executive Board (Nov 2018. [Members]())
  - - EOSC Secretariat for the executive and governance boards (Jan 2019)
- ◉ H2020 projects:
  - - EOSCpilot (2017-19)
  - - **EOSC-hub (2018-2020)**
  - - OpenAIRE-Advanced (2018-2020)
  - - FREYA (2018-2020)
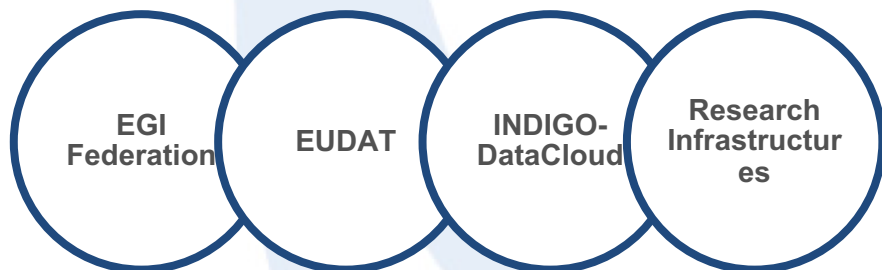 - - ESFRI Clusters (2019-2021)
  - - INFRAEOSC-* (2019-2020/21)

Vision

Researchers from all disciplines
have easy, integrated and open access to the
advanced digital services, scientific instruments,
data, knowledge and expertise they need
to collaborate to achieve excellence
in science, research and innovation

100 partners

36 months

33 million Euro

Mission

The EOSC-hub project mobilises providers of European relevance offering services, software and data for advanced data-driven research and innovation.

These resources are offered via the Hub – the integration and management system of the European Open Science Cloud, acting as a European-level entry point for all stakeholders.

The Compute Platform: EGI

**Services for cloud, HTC, container computing and data staging**
Based on NGIs – National compute centres – coordinated by EGI Foundation
4.4 Billion CPU core wall time in 2018**, 1 M cores, > 730 PB**
1170 open access publications, +41 new international projects
31 large scale ESFRI projects/landmarks supported

Number of sites by countries information

CPU wall time (Billion hours) povided
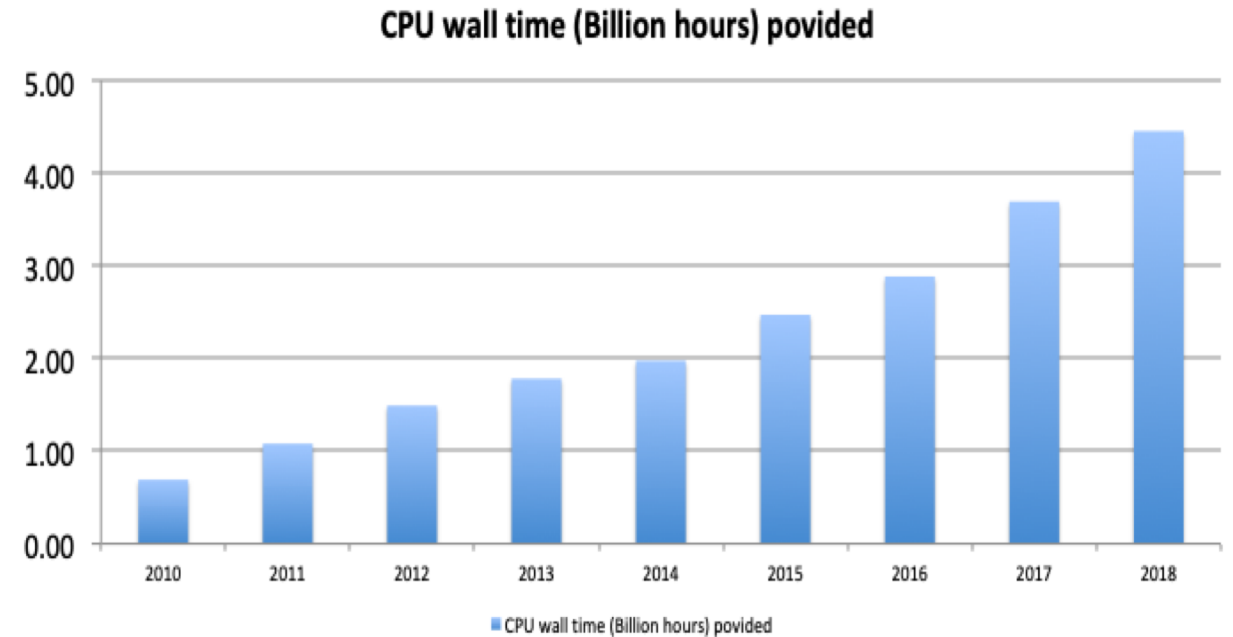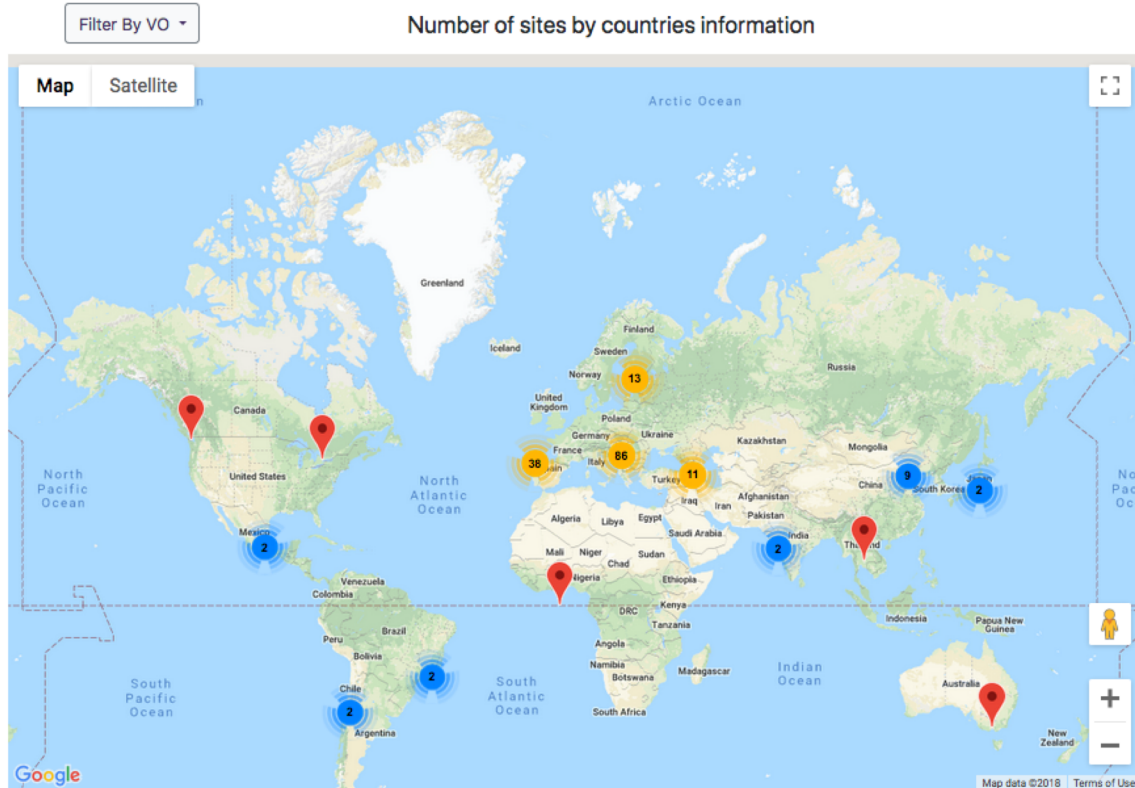
The Data Platform: EUDAT CDI
(CDI - Collaborative Data Infrastructure)

- **10K records deposited in B2SHARE**
- **1PB / 80M registered objects**
- **13 community repositories integrated** into the CDI
- **630K records in B2FIND**

- **EUDAT Ltd. formally established** to operate on a non-profit making basis as the voice of European organisations working together as part of the **EUDAT CDI**
- **Over 20 major European research organisations, data and computing centres** currently part of the EUDAT CDI

+7000
Online community members

50
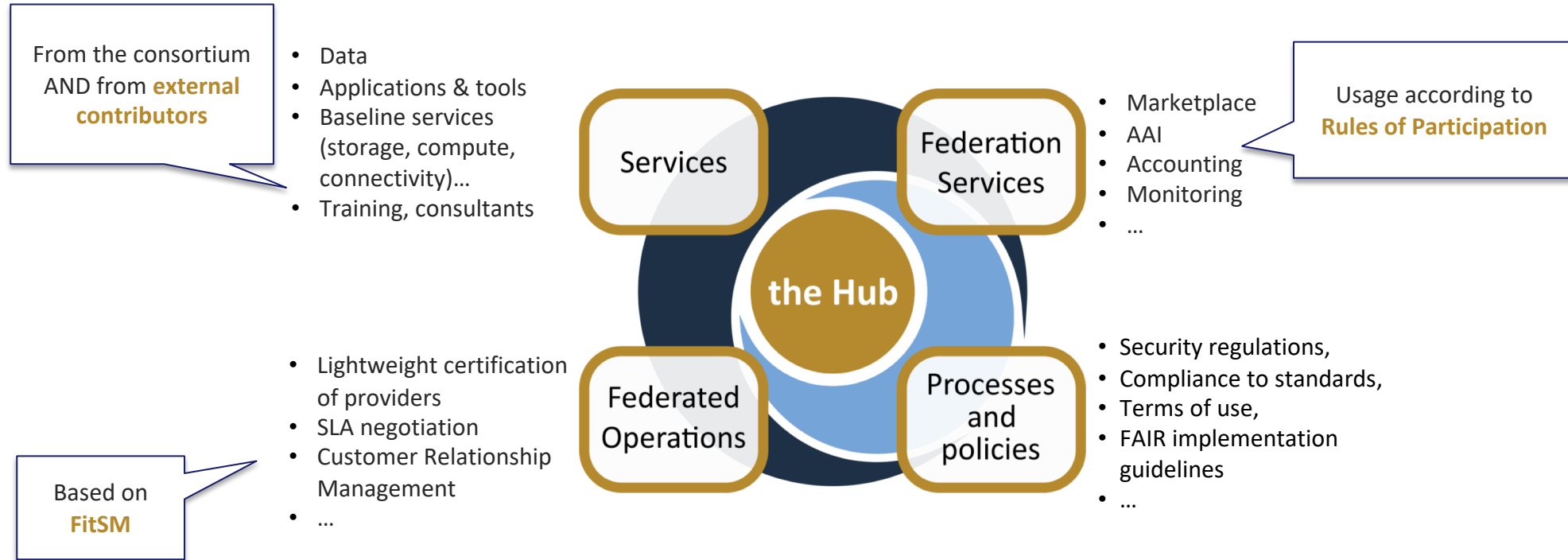Communities using EUDAT services

34
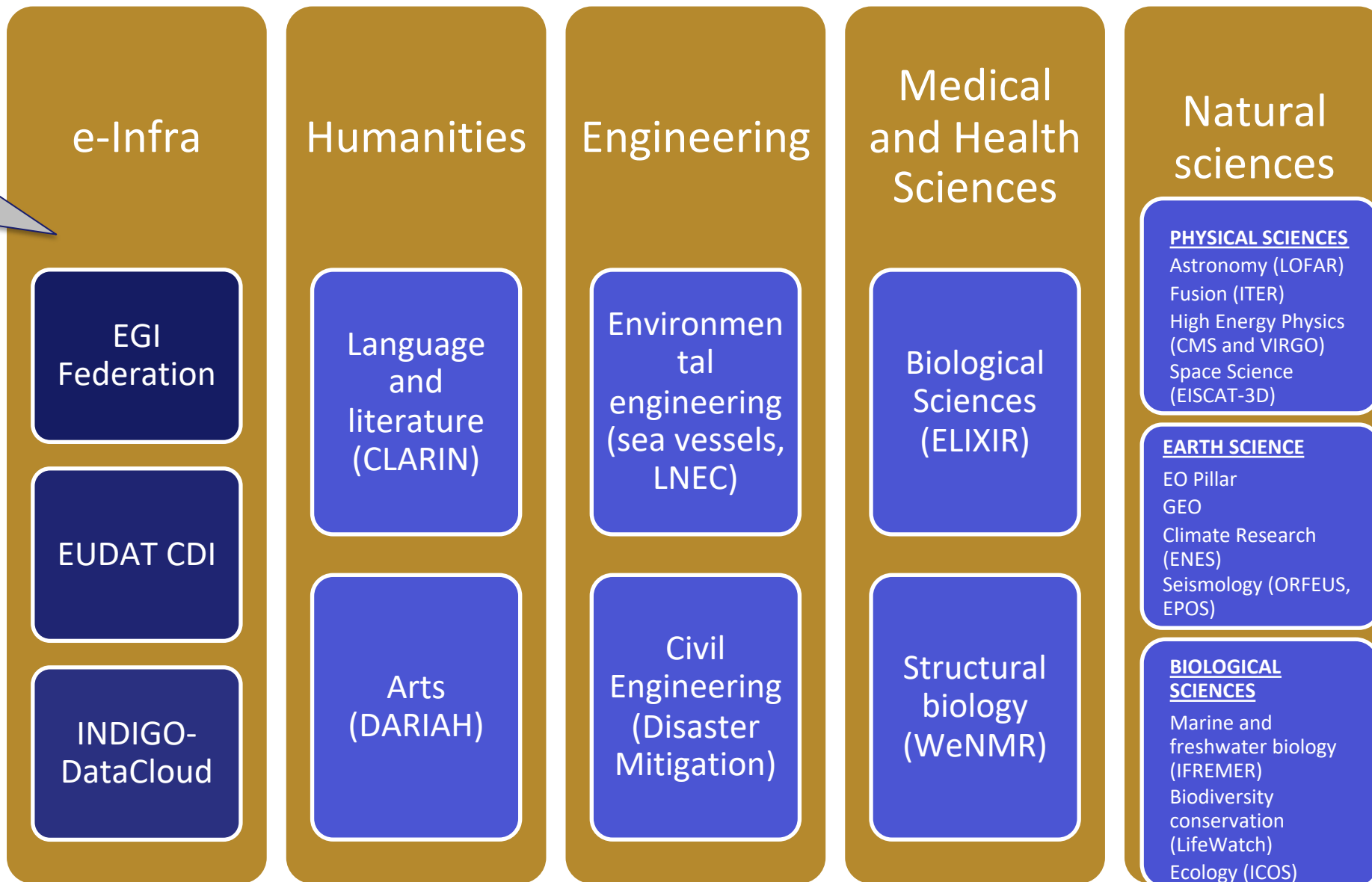e-training components for a total of over 20000 views
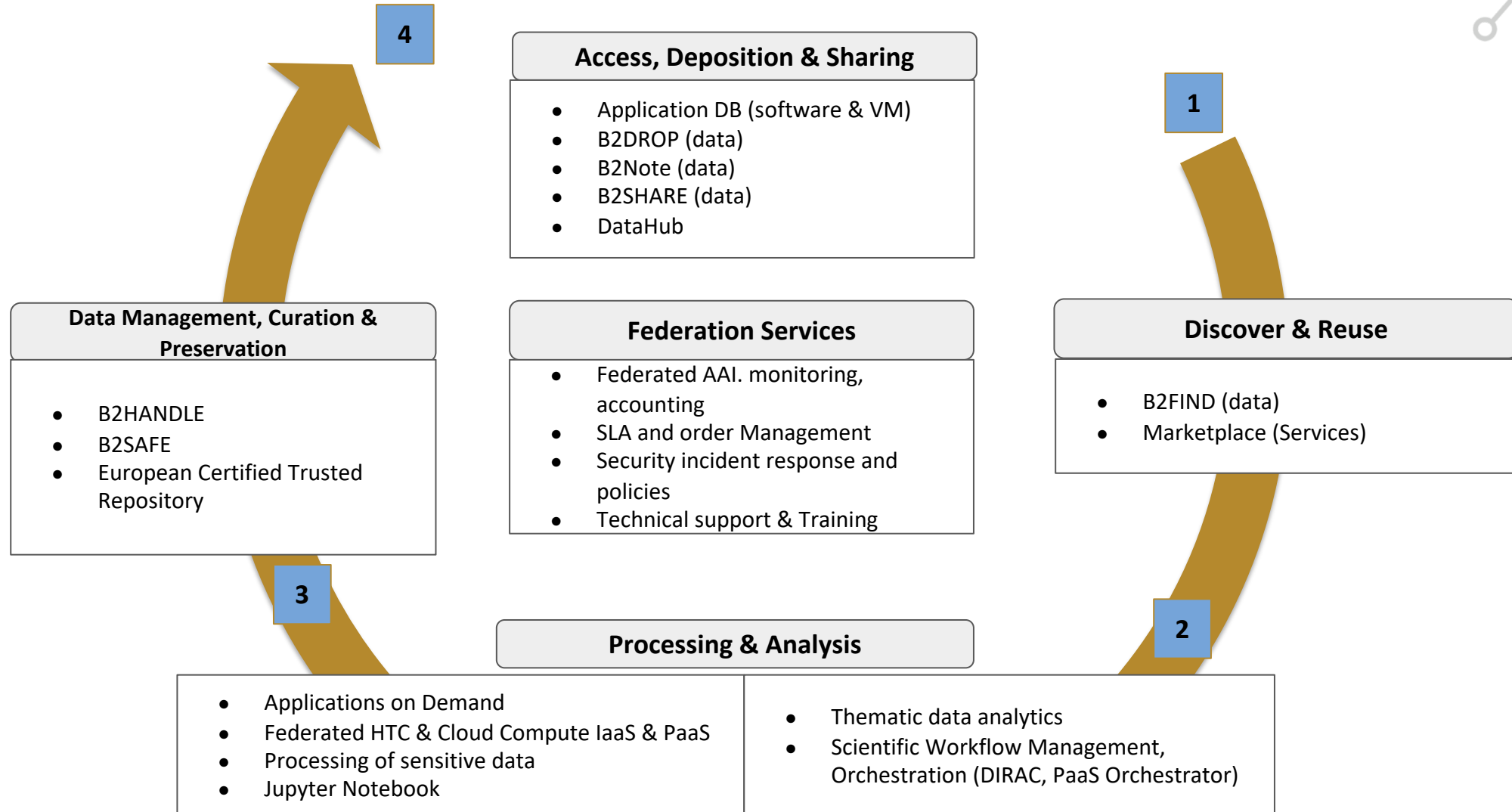
The project established 'The Hub'

- A system with: Federation & collaboration services; Processes & policies; Business models & procurement experience; Strategy & Technical Service Roadmap, etc.
- Simplify access to a broad portfolio of products, resources and service provided by the major pan-European and international organizations through an open and integrated service catalogue

From the consortium AND from **external contributors**

- Data
- Applications & tools
- Baseline services (storage, compute, connectivity)…
- Training, consultants

- Marketplace
- AAI
- Accounting
- Monitoring
- …

Usage according to **Rules of Participation**

Services

Federation Services

the Hub

Federated Operations

Processes and policies

- Lightweight certification of providers
- SLA negotiation
- Customer Relationship Management
- …

Based on **FitSM**

- Security regulations,
- Compliance to standards,
- Terms of use,
- FAIR implementation guidelines
- …

https://marketplace.eosc-portal.eu

Generic services: Support to the Research Data Lifecycle

Access, Deposition & Sharing

- Application DB (software & VM)
- B2DROP (data)
- B2Note (data)
- B2SHARE (data)
- DataHub

Data Management, Curation & Preservation

- B2HANDLE
- B2SAFE
- European Certified Trusted Repository

Federation Services

- Federated AAI. monitoring, accounting
- SLA and order Management
- Security incident response and policies
- Technical support & Training

Discover & Reuse

- B2FIND (data)
- Marketplace (Services)

Processing & Analysis

- Applications on Demand
- Federated HTC & Cloud Compute IaaS & PaaS
- Processing of sensitive data
- Jupyter Notebook

- Thematic data analytics
- Scientific Workflow Management, Orchestration (DIRAC, PaaS Orchestrator)

Browse & access services: https://eosc-portal.eu

EOSC-hub Stakeholders

ESFRI clusters
H2020 e-infrastructure projects
Business organisations

Scientific-service provider institutes

SERVICES PROVISION

SERVICES USAGE

SERVICES PROVISION

Technology providers

SERVICES PROVISION

SERVICES USAGE

Reserach communities (incl.Individuals and long tail of science)

INDIRECT BENEFICIARIES

FUNDERS

General public

Governmental, funding, policy agencies

EOSCpilot
www.eoscpilot.eu

Prep. Activities for EOSC-hub

Research Infrastructure Roles in EOSC-hub

EOSC-hub

Service/Product providers

- *Contribute to the portfolio & Integrate*
- *Promote, Train, Exploit*
- *Participate in the Hub*

EUROPEAN OPEN SCIENCE CLOUD MARKETPLACE

Early adopters

- *Pilot*
- *Use*
- *Co-develop*

In the form of 'Competence Centres':
https://wiki.eosc-hub.eu/display/EOSC/WP8+Competence+Centres

Consumers

- *Credit allocation & exploit*
- Procurement
- Improve with feedback
- Thematic support

EUROPEAN OPEN SCIENCE CLOUD MARKETPLACE

EOSC-hub Collaboration Areas

https://www.eosc-hub.eu/publications

existing service

Networking

Join as provider

Training, user support and best practices

EOSC Digital Innovation Hub

Join as a provider - Benefits

- Promote adoption of your services

- Get statistics about access and customer feedbacks

- Get a free online platform to manage the services request and interact with users

- Contribute to the definition and maintenance of the EOSC service provisioning policies and portfolio roadmap

Join as a provider - Requirements

- The service is accessible by users outside the original community
- The service is described via the common template (for publication on the EOSC portal)
- At least one service instance is running in a production environment
- Publish research data is 'FAIR'
- Release notes and documentation are available
- Helpdesk channels are available

https://eosc-portal.eu/for-providers

Training and support

- EOSC-hub supports and coordinates the development and delivery of EOSC related trainings
  - Service-specific training
  - Training to facilitate Open Science – E.g. RDA good practices; IT Service Management; …

- Training resources online (courses and content)
  - Innovation Management
  - Service Management
  - IT Security
  - Data management
  - EOSC services

Attend training
Become training provider

https://www.eosc-hub.eu/training-material

EOSC Digital Innovation Hub (DIH)

- ## What are Digital Innovation Hubs?

  - An ecosystem of start-ups, SMEs, large industries, researchers, accelerators and investors that fosters the creation of partnerships to stimulate innovation.
  - 200+ DIHs registered comprising both regional and European ones that focus on a variety of sectors and topics

- ## The EOSC DIH

  - To **onboard industrial partnerships** within the **European Open Science Cloud**
  - Focused on (not limited to) **start-ups and SMEs**
  - To **persist beyond** the life of the project

Join the DIH
Propose/run a Business Pilot

Networking & Strategic Partnerships

EOSC Implementation Projects

- PaNOSC
- ENVRI-FAIR
- EOSC-LIFE
- ESCAPE
- SSHOC
- …

eInfras
(and their national research support teams)

- EGI
  (NGIs)
- GEANT
  (NRENs)
- OpenAIRE
  (NOADs)
- …

Strategic
> EOSC-hub Strategic Board participation

Technical
> Technical support and service provisioning

Operational
> Coordinated user support and outreach

EOSC-hub is open to partnership with additional stakeholders to reach and support new types to users and providers

EOSC-hub Week 2019
10-12 April, Prague

Highlights:

- Keynote by ESFRI Chair

- Science discipline specific sessions

- Plenary about 'how to join'

- Service providers' bootcamp

- Launch of a call for Research Projects to use generic services

- Training (FitSM, Federated AAI, Data Management, Orchestration)

Call for posters and demos open until March 1

EGI Conference and
Design Your e-Infratructure workshop

To engage with EGI service providers (generic services in EOSC)

Conference (May 6-8)

Design Your e-Infrastructure workshop (May 9):

- Intro to EGI services & analysis of science community use cases

EGI CONFERENCE 2019

6 - 8 May
Amsterdam, Netherlands

www.egi.eu

Thank you
for your attention!

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Questions?

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Value proposition of Users and Providers

Users

- Discover services through a secure online catalogue with a central access point.
- Access services via harmonised access policies and Service Level Agreements. Depending on the customer's needs, access will be provided through a centrally managed credit-based allocation system and/or through long-term resource allocation.
- Leverage a large portfolio of generic and thematic services via standard interfaces
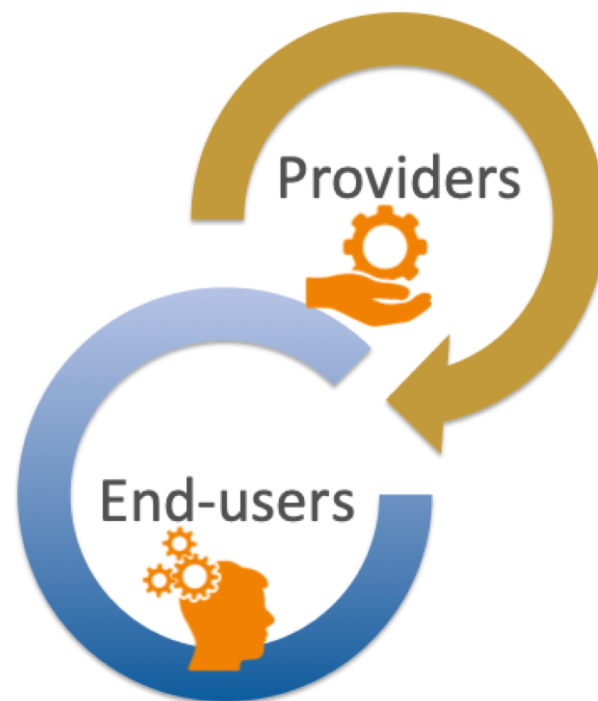
Providers

- Contribute to EOSC with services based on a harmonised corpus of access, security and provisioning policies.
- Federate services by relying on harmonised processes and tools for service integration and management.
- Scale-up in-house capacity by procuring services via a centrally run procurement and purchase framework.