E-INFRASTRUCTURES

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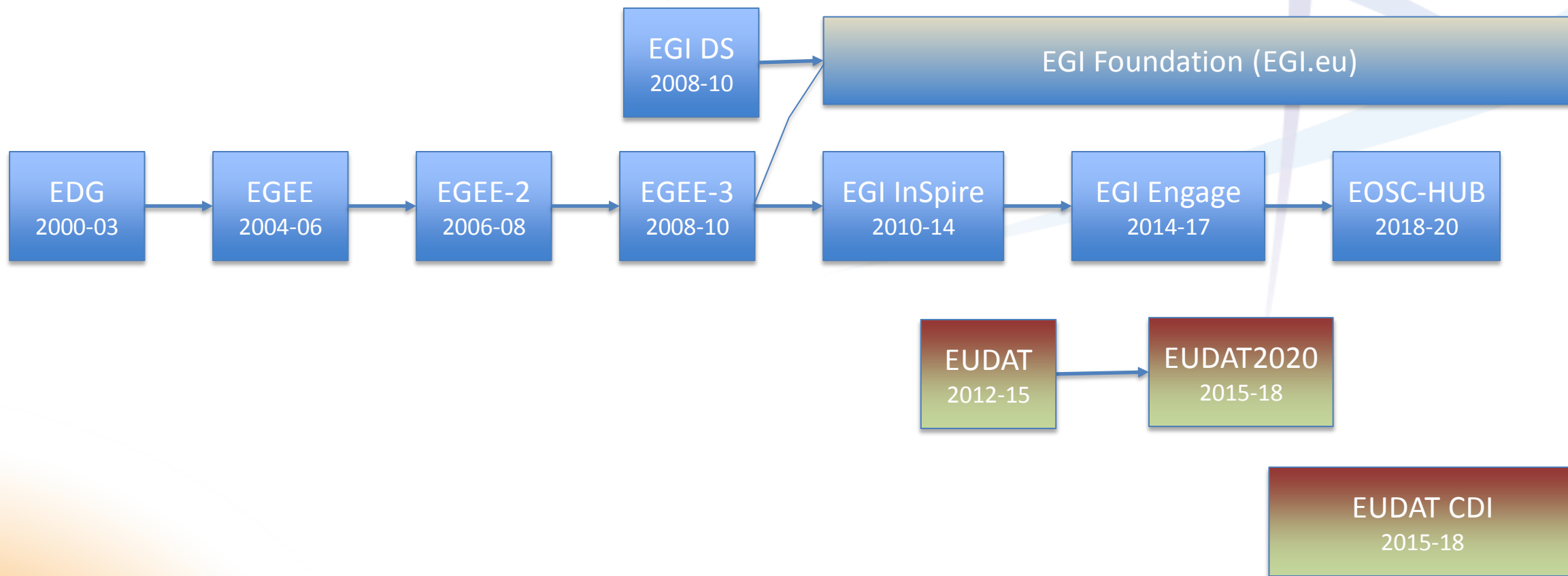
EOSC-hub support to the European Open Science Cloud

🔗 eosc-hub.eu

🐦 @EOSC_eu

Dissemination level: Public

About the European Open Science Cloud

○ A EC high-level initiative addressing the fragmentation of today's European digital infrastructures for research

EOSC Objectives	Actions
Increase the ability to **exploit research data across scientific disciplines** and between the public & private sector	> **Publish, discover, access** services and resources for all scientific disciplines > **Open** to national, regional, pan-European providers, and supports different exploitation models (e.g. free at point of use, commercial)
Increase interoperability, **interconnect the existing and the new research digital infrastructures across Europe**	> Provide thematic services integrated with European compute/data platforms for data exploitation > **Single sign on, integrated access and order**
Support **open science**	> **Services to share and discover research artefacts** (publications, datasets, software, workflows etc.), research artefacts data sources (publication repositories, publishers, data archives, software archives, etc.)

The Hub:

a European contact point
to discover, access, use and reuse
resources for advanced data-driven research

20 digital research infrastructures,
EGI, EUDAT CDI and INDIGO-DataCloud
jointly offering services, software and data
for advanced, data-driven research & innovation

EOSC strategic actions 1/3	
Architecture	Provides a **framework to manage services** sourced from a number of service providers and plays the role of service integrator.
Data	Through the EOSC-hub Marketplace, provides a discovery and access channel to FAIR-accredited datasets

EOSC strategic actions 2/3

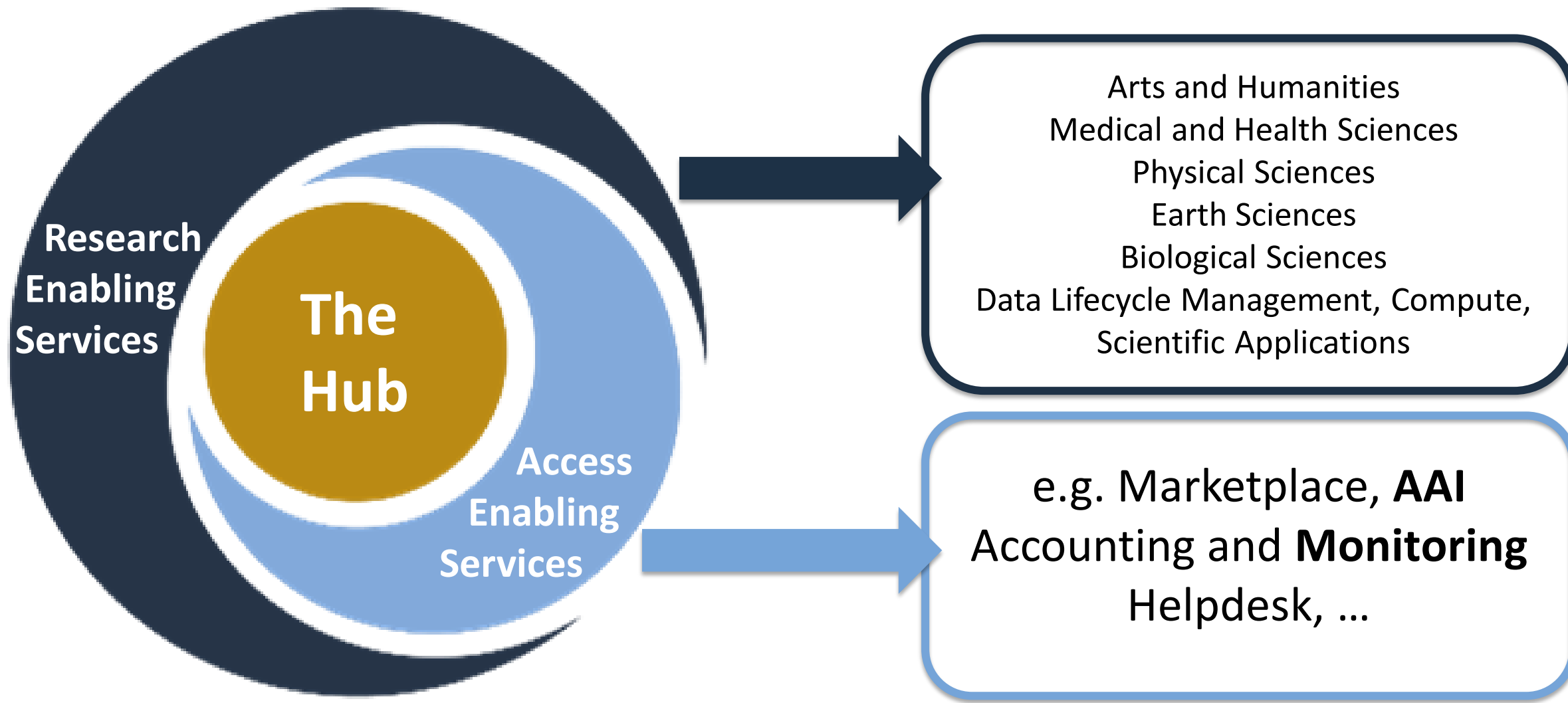| Services	Contributes to the definition of a participatory and lightweight **service portfolio management process** in collaboration with the participating service providers.
	Engages with the demand and supply side of the EOSC, and will **co-develop and operate a marketplace** as one entry point to EOSC.

EOSC strategic actions 3/3

Rules of Participation	Collaborates with partners and external projects/initiatives to **establish and maintain a corpus of policies** that is attractive and provides value for both service providers and service users.

EOSC-hub Service catalogue

Research Enabling Services

The Hub

Access Enabling Services

Arts and Humanities
Medical and Health Sciences
Physical Sciences
Earth Sciences
Biological Sciences
Data Lifecycle Management, Compute, Scientific Applications

e.g. Marketplace, **AAI** Accounting and **Monitoring** Helpdesk, …

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

◉ EOSC-hub (external) service portfolio ➔ Research enabling

- The set of **customer-facing services** that are offered by the EOSC Hub

◉ EOSC-hub internal service portfolio ➔ Access enabling

- The set of **supporting services** needed to operate the EOSC Hub

Another view on the services based on the Research Data Lifecycle

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Access, Deposition & Sharing

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

1

3

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)

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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)

EOSC-hub (External) Service Portfolio - areas

Compute
- EGI High-Throughput Compute
- **EGI Cloud Compute**
- EGI Cloud Container Compute

Platforms
- EGI Workload Manager
- IM (Infrastructure Manager)
- PaaS Orchestrator

Identity & Security
- **EGI Check-in**
- B2Access
- IAM

Data Management & Storage
- B2Handle
- B2Find
- B2Drop
- **B2Safe**
- B2Stage
- CVMFS
- EGI Datahub
- EGI Online Storage
- eTDR
- Sensitive Data Service

Thematic Services
- ECAS
- DARIAH Science Gateway
- OOPENCoastIS
- GEOSS
- **EO Pillar**
- WeNMR Suite
- DODAS
- LifeWatch Services
- CMI

Professional Services
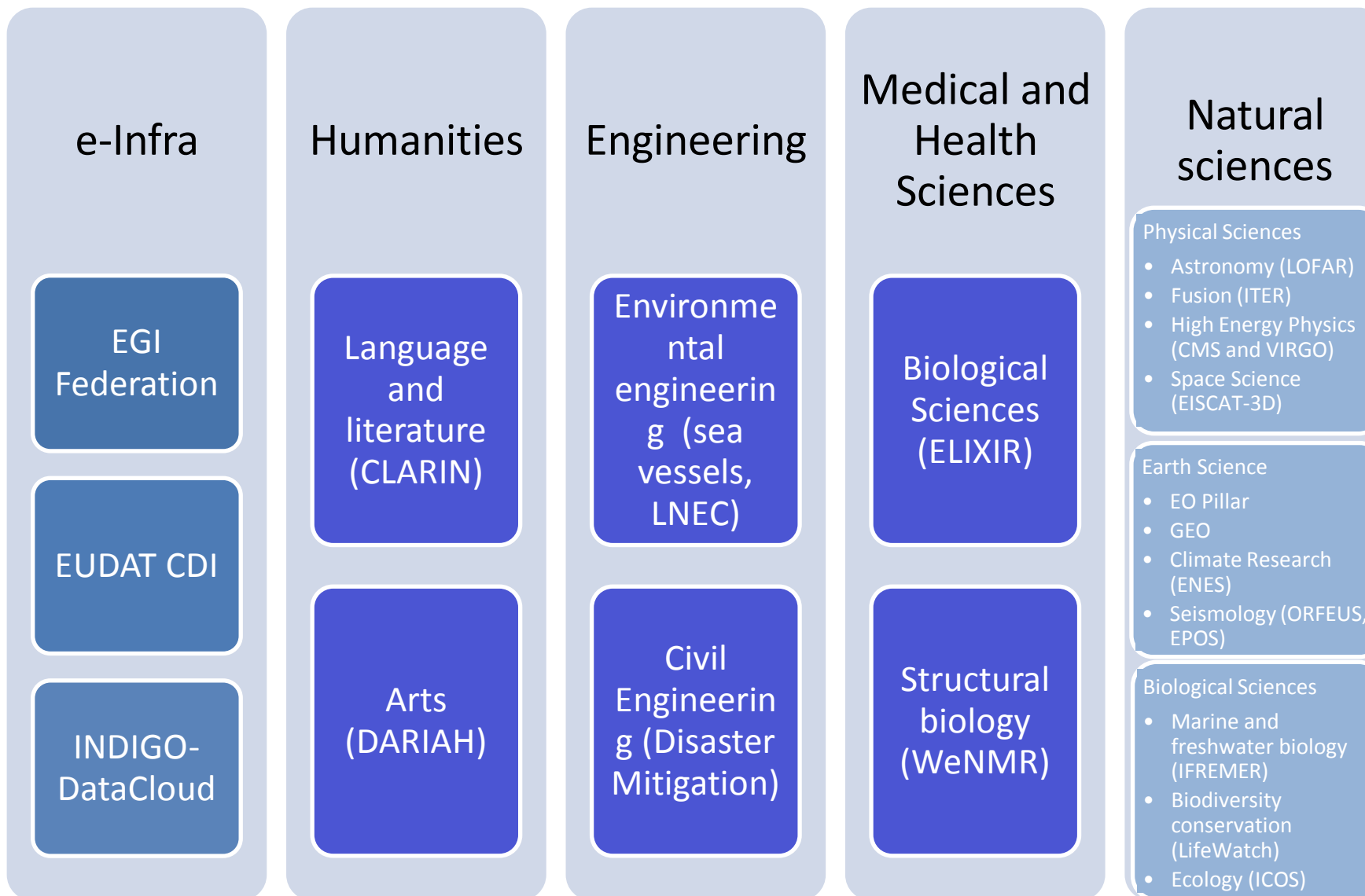- FitSM Training
- Data Management Planning

Research Data
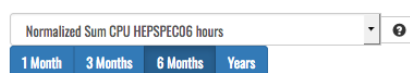- (developing)
- ...

Aggregators
- Applications Database
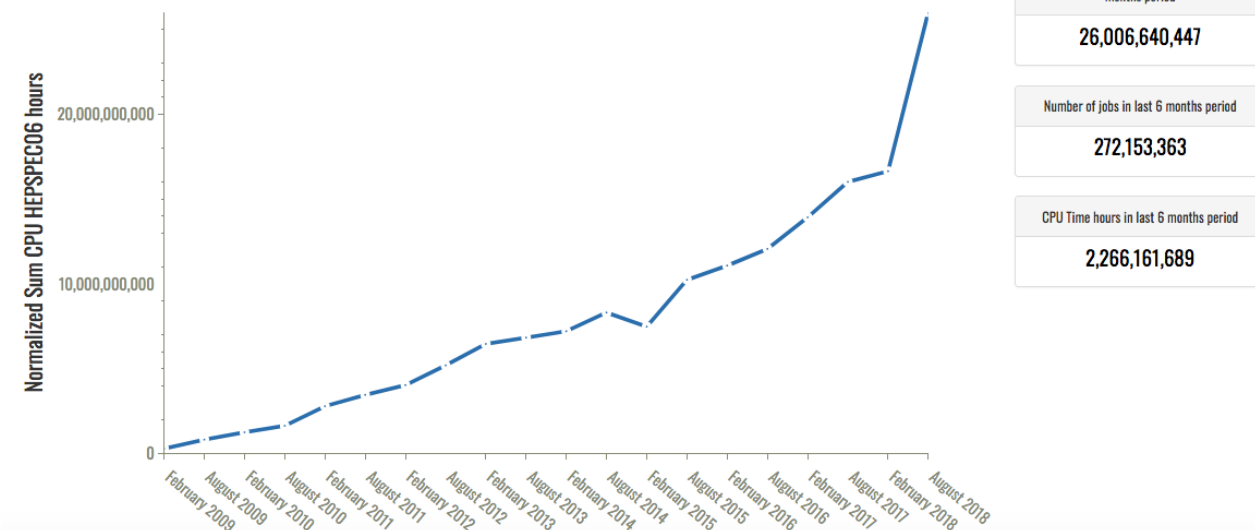- Repository of Validated Software

Services by area

e-Infra

- EGI Federation
- EUDAT CDI
- INDIGO-DataCloud

Humanities

- Language and literature (CLARIN)
- Arts (DARIAH)

Engineering

- Environmental engineering (sea vessels, LNEC)
- Civil Engineering (Disaster Mitigation)

Medical and Health Sciences

- Biological Sciences (ELIXIR)
- Structural biology (WeNMR)

Natural sciences

Physical Sciences
- Astronomy (LOFAR)
- Fusion (ITER)
- High Energy Physics (CMS and VIRGO)
- Space Science (EISCAT-3D)

Earth Science
- EO Pillar
- GEO
- Climate Research (ENES)
- Seismology (ORFEUS, EPOS)

Biological Sciences
- Marine and freshwater biology (IFREMER)
- Biodiversity conservation (LifeWatch)
- Ecology (ICOS)

EOSC-hub Compute Platform: EGI

970,600 computing cores; **356 PB** disk & **380 PB** tape storage

666 open research publications from Jan 2018 (OpenAIRE stats)

EOSC-hub

- **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

EOSC-hub Marketplace
http://marketplace.eosc-hub.eu/

A platform where services can be:

- Promoted
- Discovered
- Ordered
- Accessed

3-steps process for users

- Authentication & registration
- Product discovery and specification
- Ordering and request processing

- Core Services
  - Argo Service Monitoring
  - Argo Messaging Service
  - Agora (Service Portfolio Management Tool)
  - Check-in (AAI)
- Common Services
  - EGI FedCloud
  - B2Safe
  - B2handle
- Thematic Services
  - EO-Pilar

Summary

- EOSC-hub started in Jan 2018 with an initial set of service selected
  - Thematic services were selected via an open call mechanism

- Most of these services are already available for use

- The EOSC Portal will be launched November 23rd
  - The EOSC-hub marketplace will be unveiled as one of the underpinning components

**Thank you
for your attention!**

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Questions?

EOSC-hub

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