



EOSC Services & Architecture: the EOSC-hub approach

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eosc-hub.eu



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EOSC-hub

100
partners

36
months


33
million
Euro

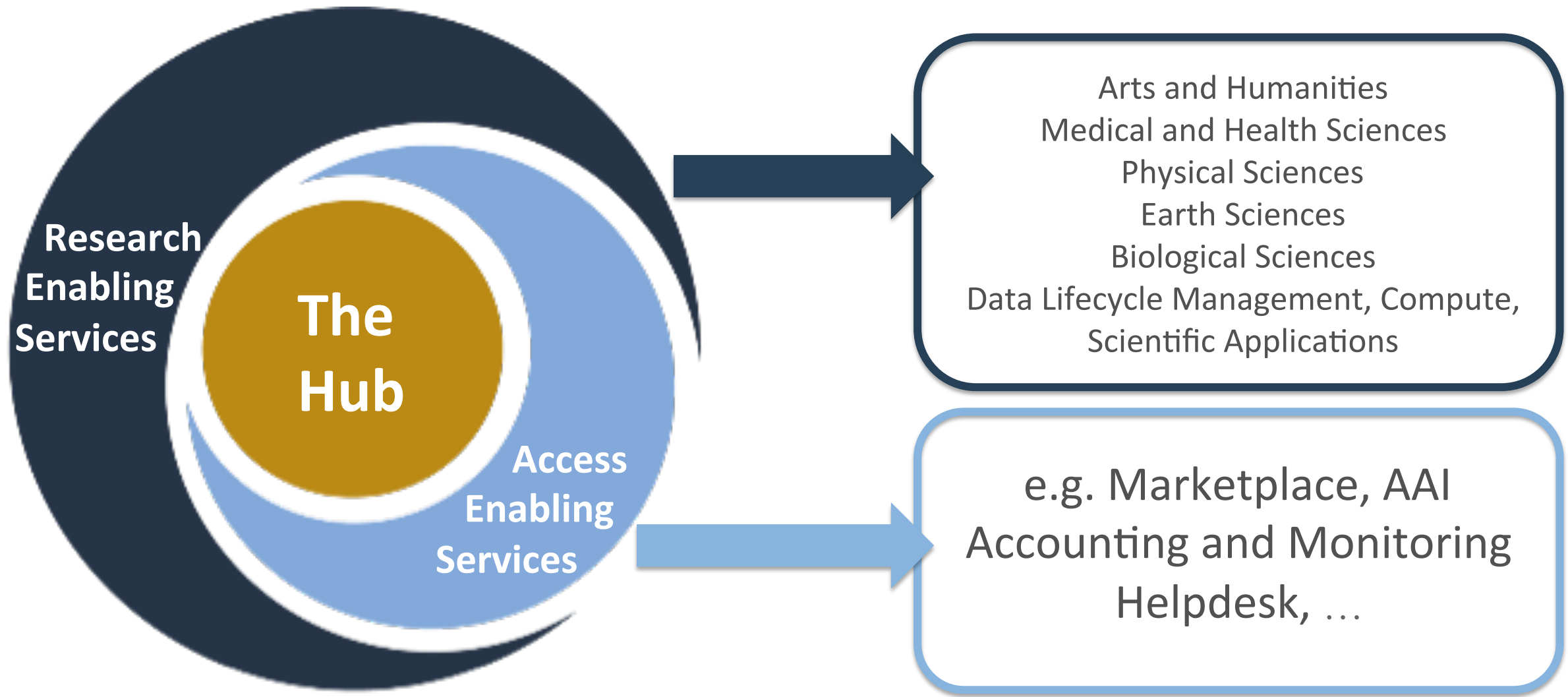
20 digital research infrastructures,
EGI, EUDAT CDI and INDIGO-DataCloud
jointly offering **services, software and data**
for advanced, data-driven research & innovation

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

EOSC Objectives	Actions
<p>Increase the ability to exploit research data across scientific disciplines and between the public & private sector</p>	<ul style="list-style-type: none">> Publish, discover, access services and resources for all scientific disciplines, defined and adopt a service portfolio management process – activities and governance> Open to national, regional, pan-European providers, and supports different exploitation models (e.g. free at point of use, commercial)➤ Joint Digital Innovation Hub https://eosc-hub.eu/digital-innovation-hub

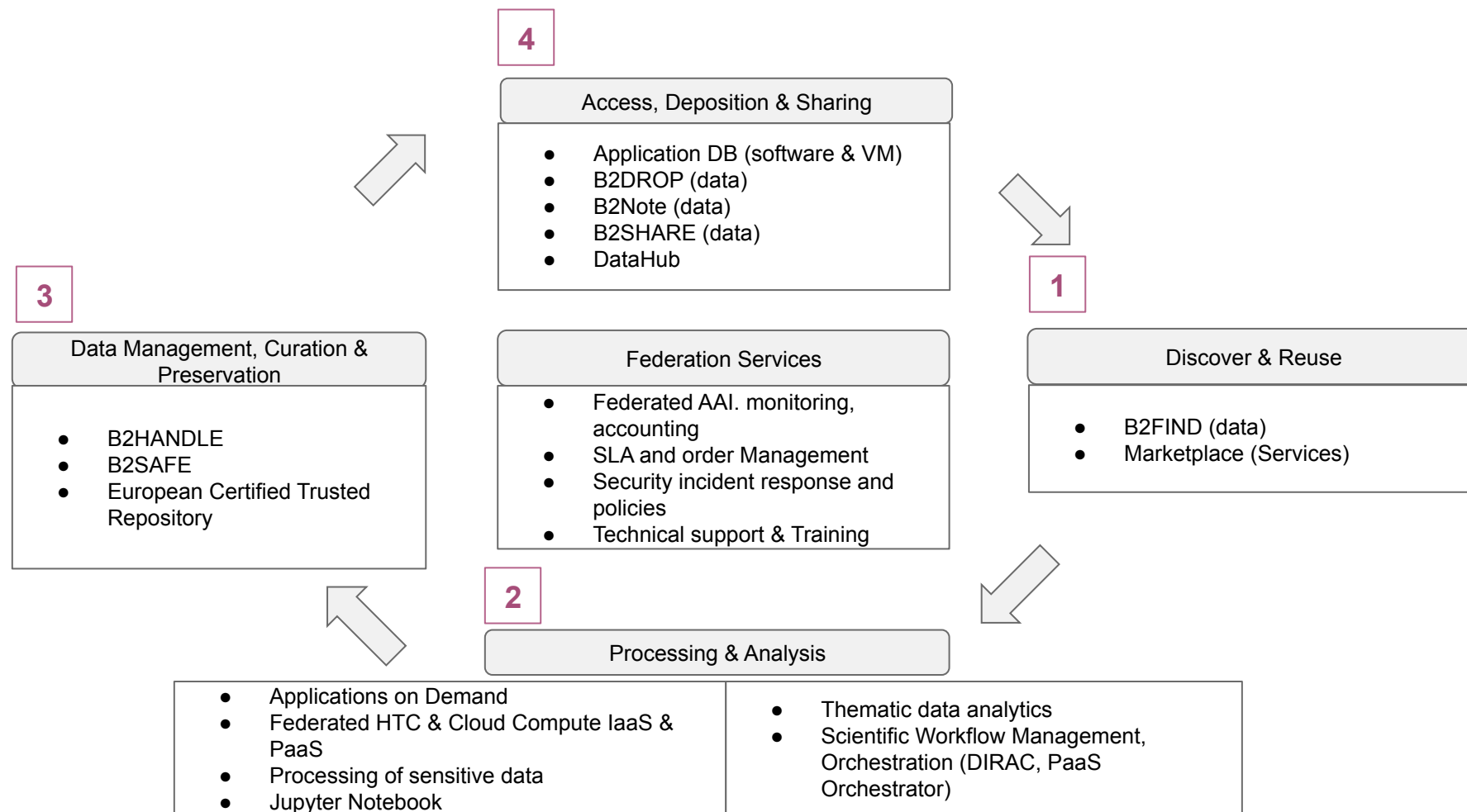
EOSC Objectives	Actions
Increase interoperability, interconnect the existing and the new research digital infrastructures across Europe	<ul style="list-style-type: none">> Provide thematic services integrated with European compute/data platforms for data exploitation> Initial set of rules of participation for service providers and users> Single sign on, integrated access and order through a service marketplace

EOSC Objectives	Actions
Support open science	<ul style="list-style-type: none">➤ Services to share and discover research artefacts (datasets, software, notebooks) and research artefacts sources➤ A EOSC-hub & OpenAIRE collaboration 

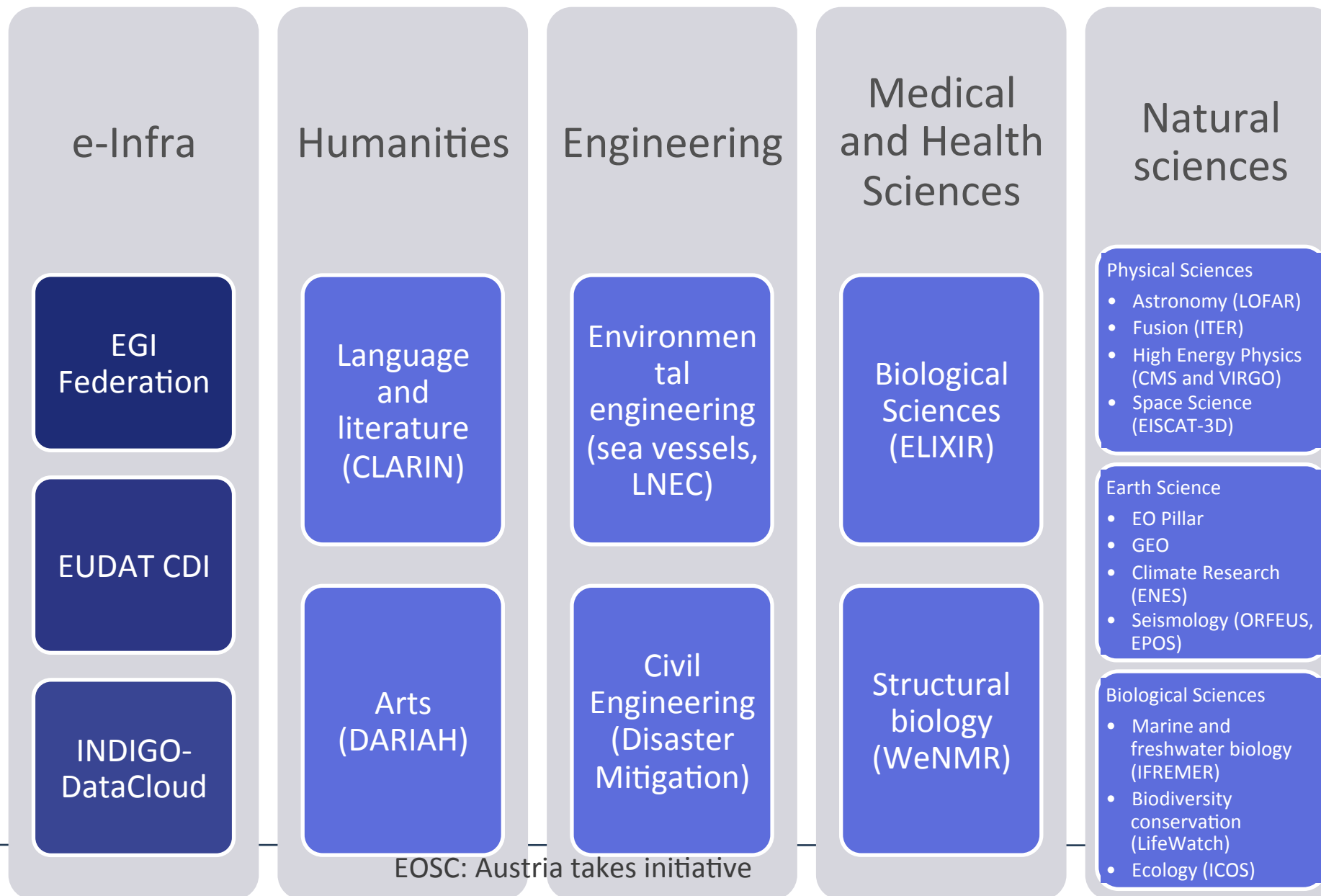


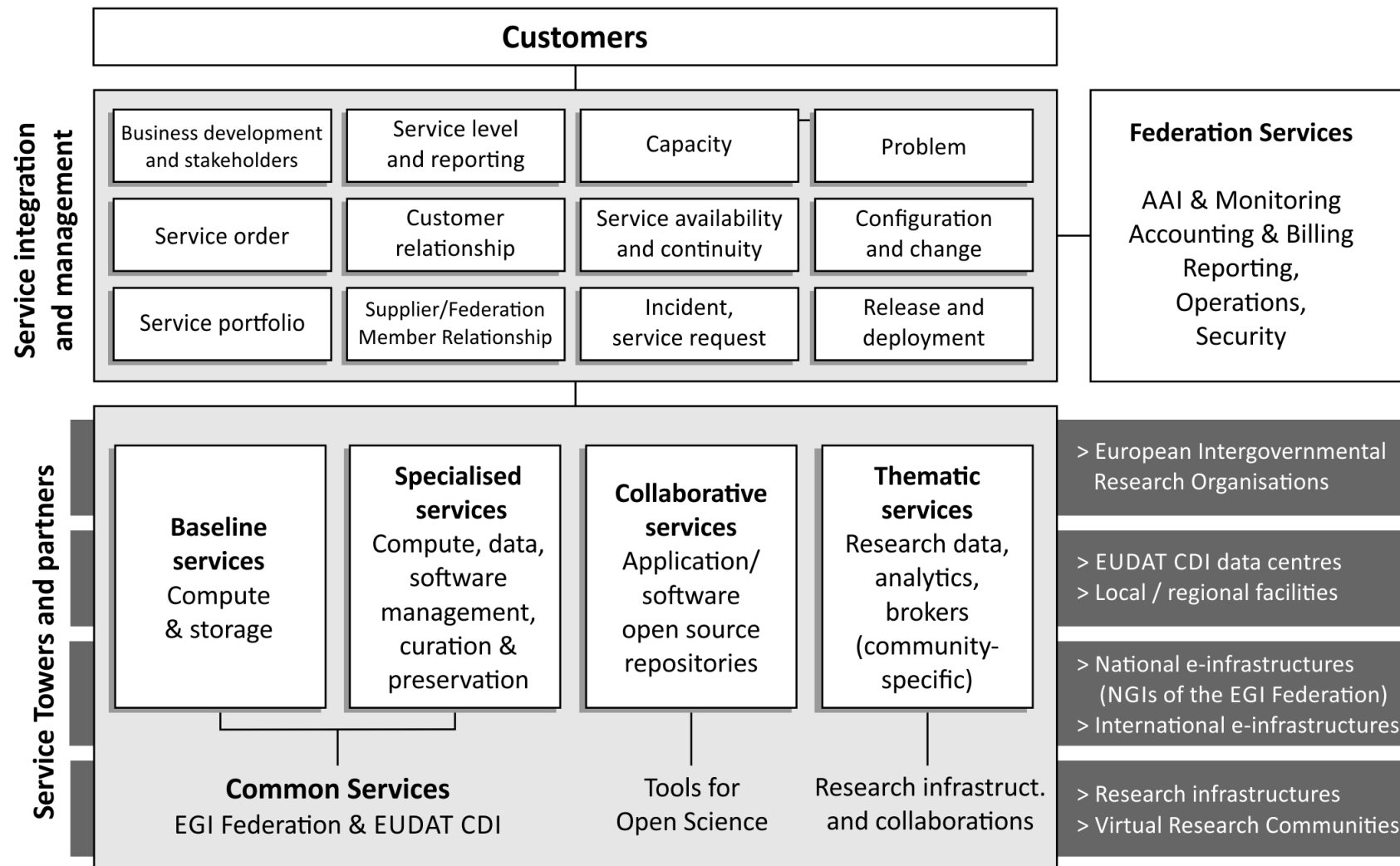
<https://www.eosc-hub.eu/catalogue/>

Another view on the services based on the Research Data Lifecycle



Services by scientific domain





Contribution of Austria to EOSC-hub

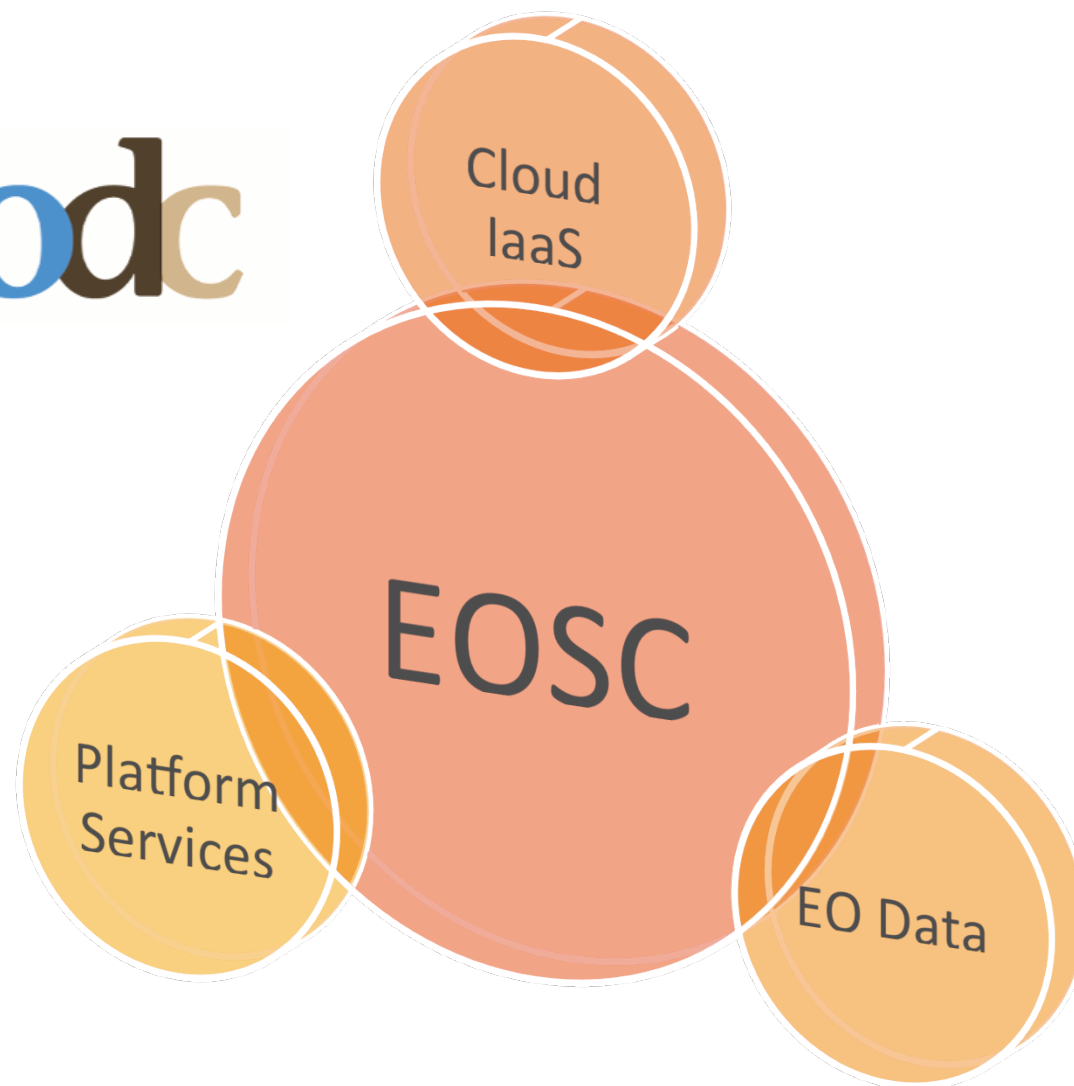
For data & service interoperability

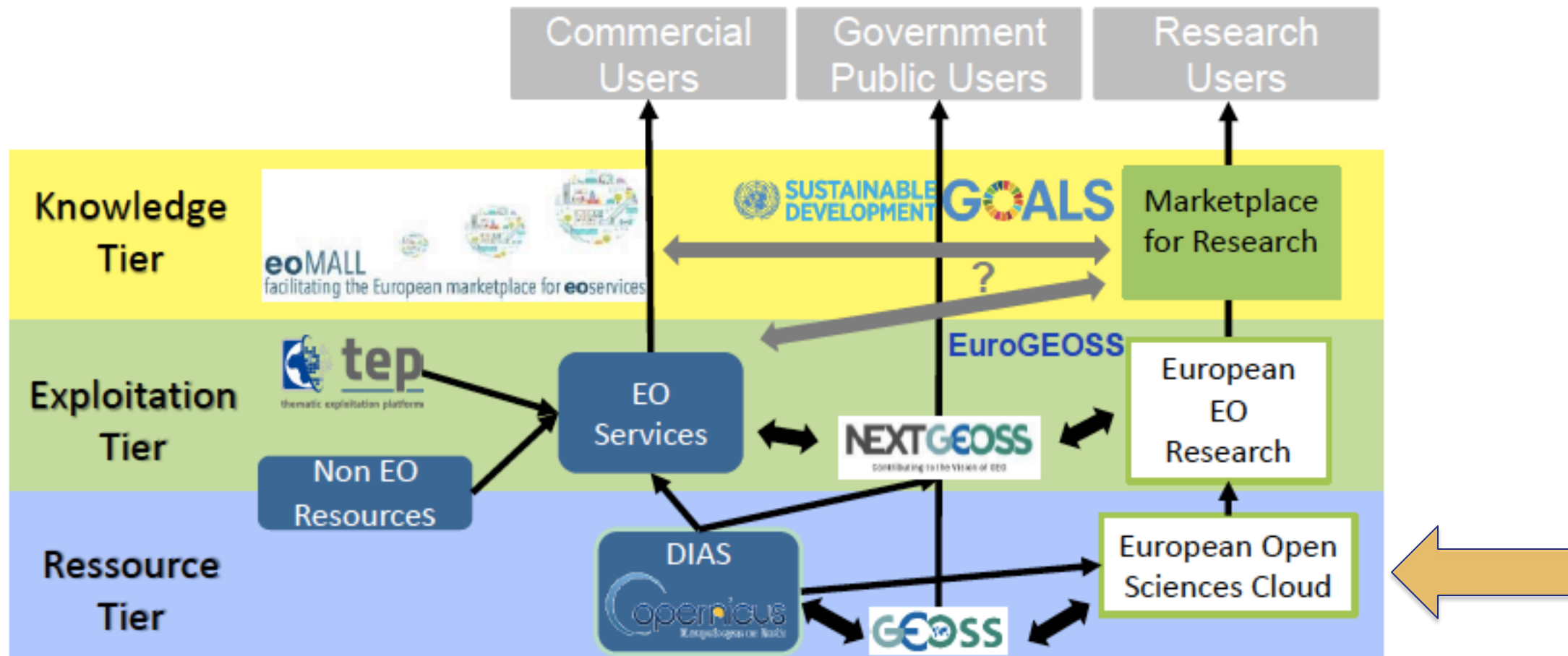
- **Earth Observation Data Centre for Water Resources Monitoring**

Coordination of Earth Observation data and services integration

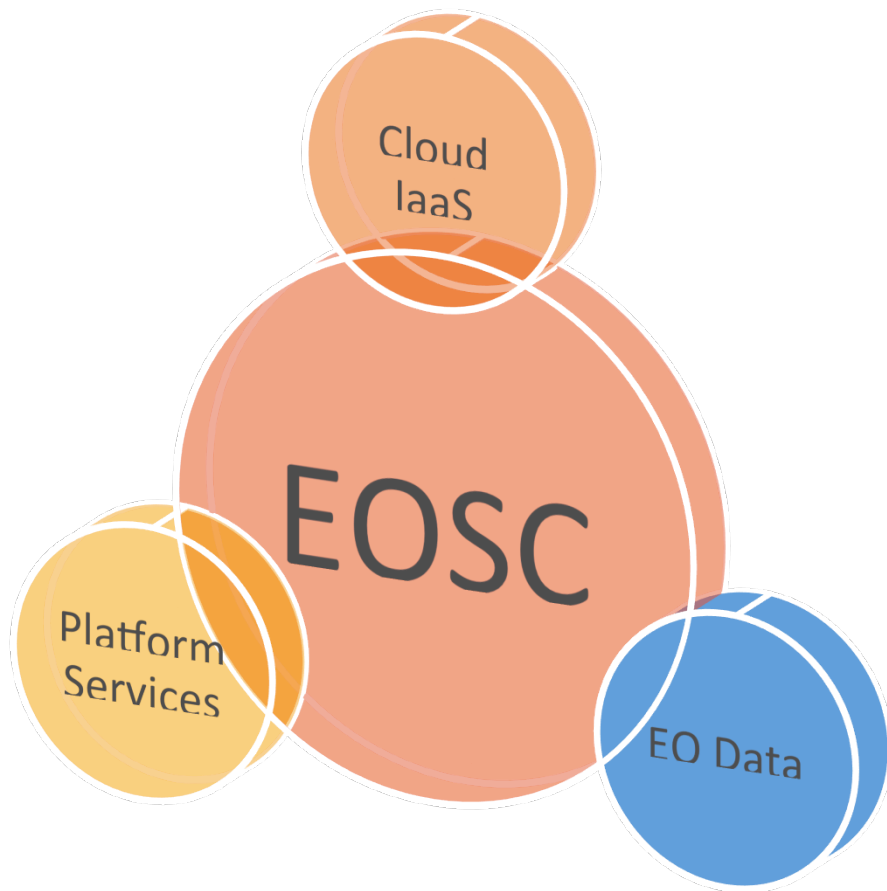
1. EO data
2. Platform services
3. Cloud IaaS

- Collaboration with

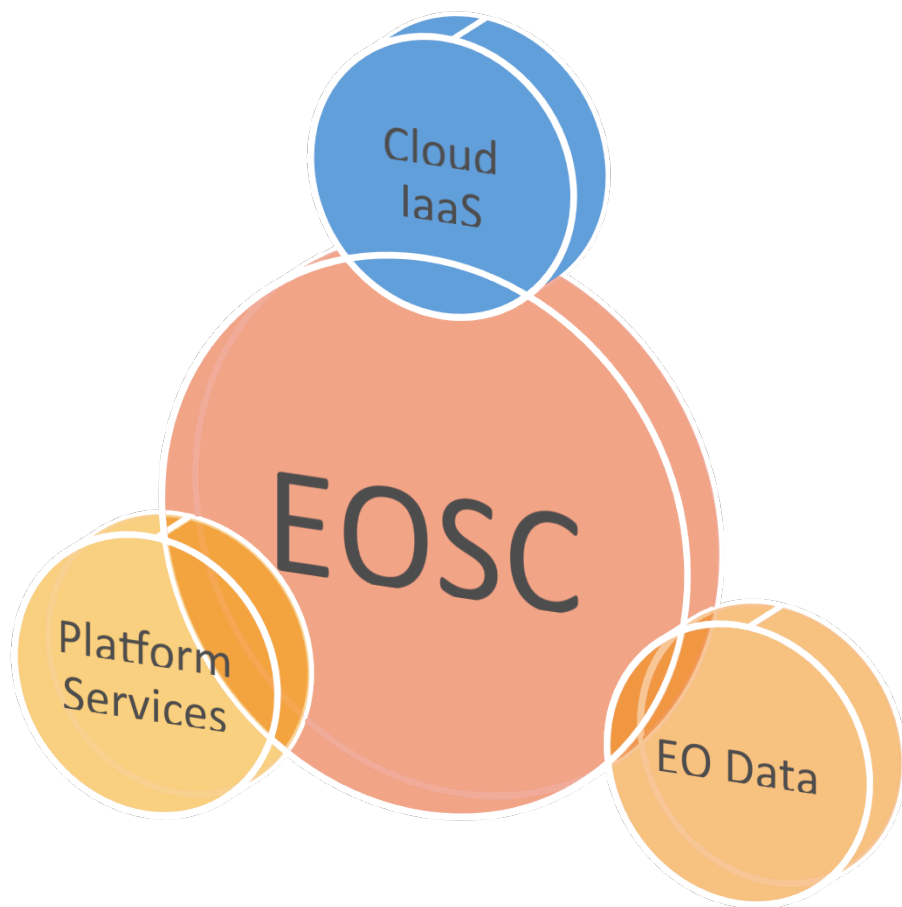
The logo for the Earth Observation Data Centre (eodc) features the lowercase letters 'eodc' in a sans-serif font. The 'eo' is blue and the 'dc' is brown.



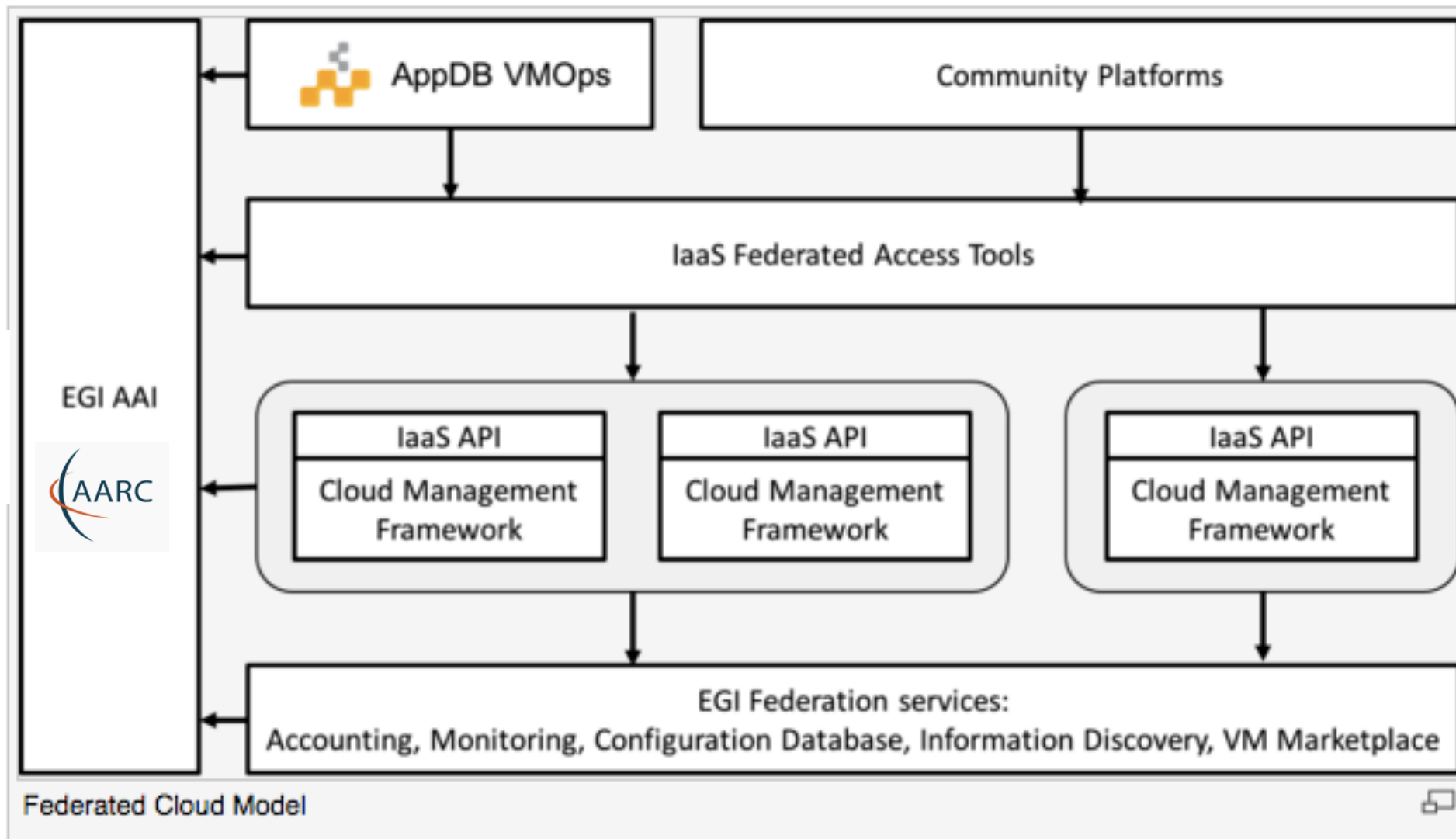
Credits: E. Pajot/EARSC

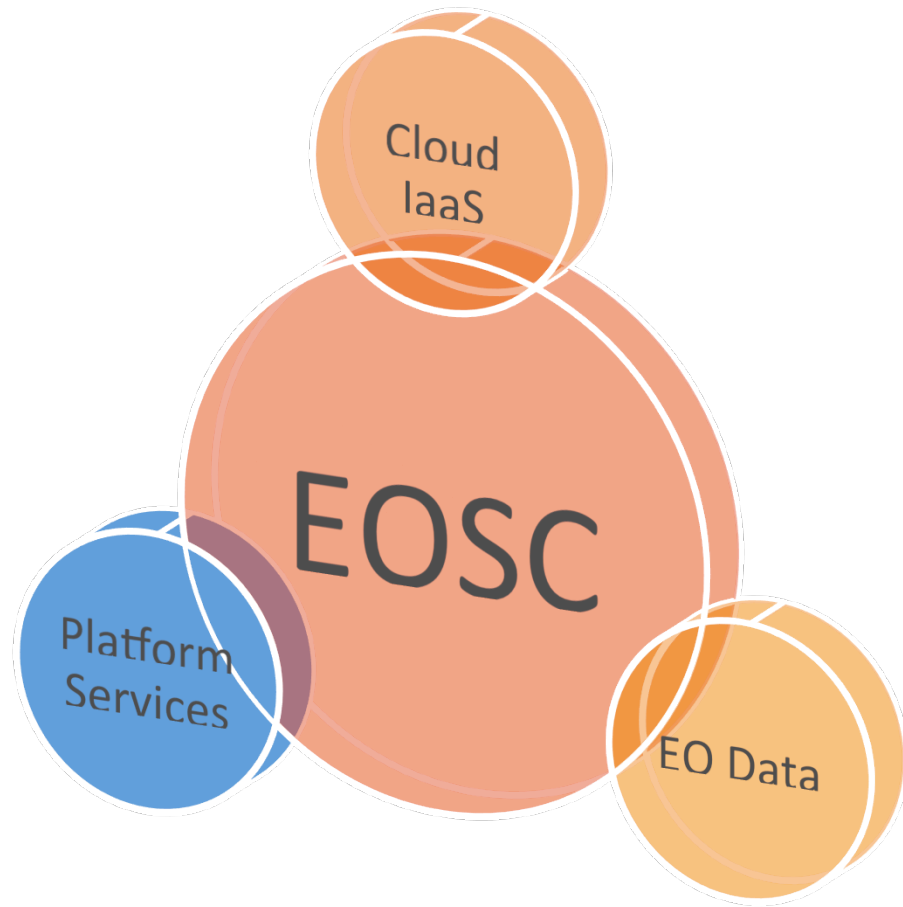


- (EOSC) Metadata Catalogue Service, > 3.5 Million datasets, fully compliant with OGC standards
- (Sinergise) Landsat-8 data
 - 25 years of observations over Europe
 - Approximately 200,000 Landsat scenes
- Sentinel series: Sentinel-1 GRD, Sentinel-2 L1C, Sentinel-2 L2A, Sentinel-3 OLCI, Sentinel-5P
 - 1,018 * 600 MB Sentinel tiles are required to cover the entire Europe
- Envisat MERIS data for the whole world and the full period of operation
- MODiS (Moderate Resolution Imaging Spectroradiometer)



- **CloudFerro** <http://www.cloudferro.com/>
- **EODC** <https://eodc.eu>
- **GRNET** and **CESNET** national research clouds
<https://www.egi.eu/services/cloud-compute/>

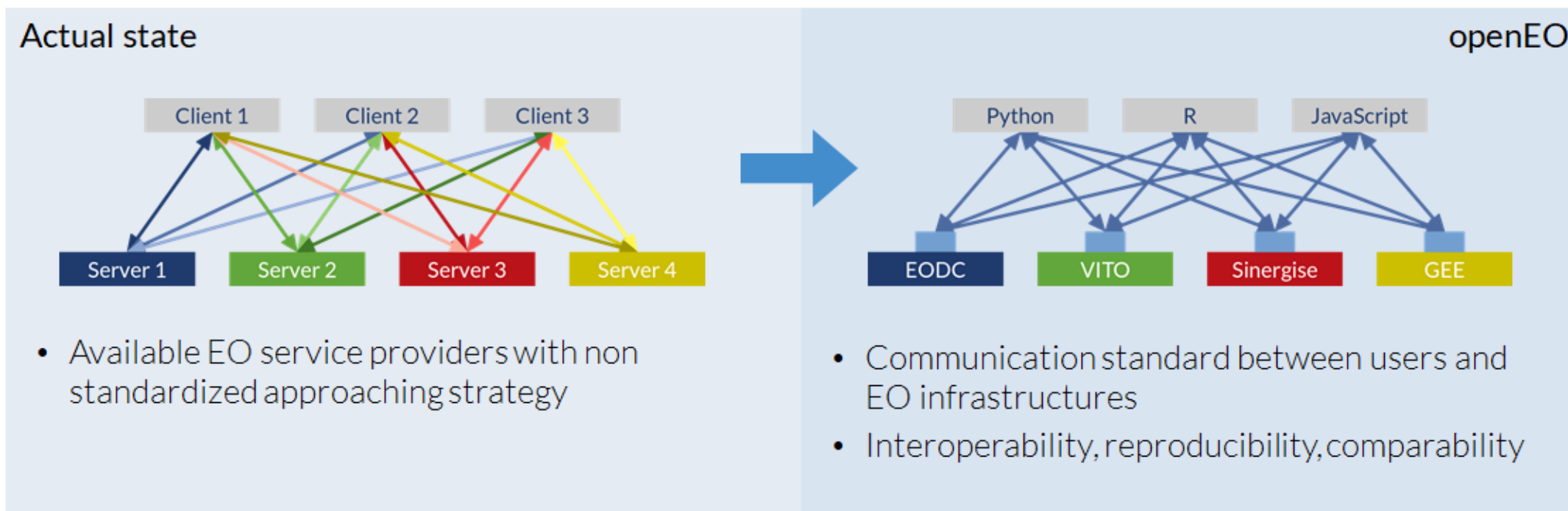




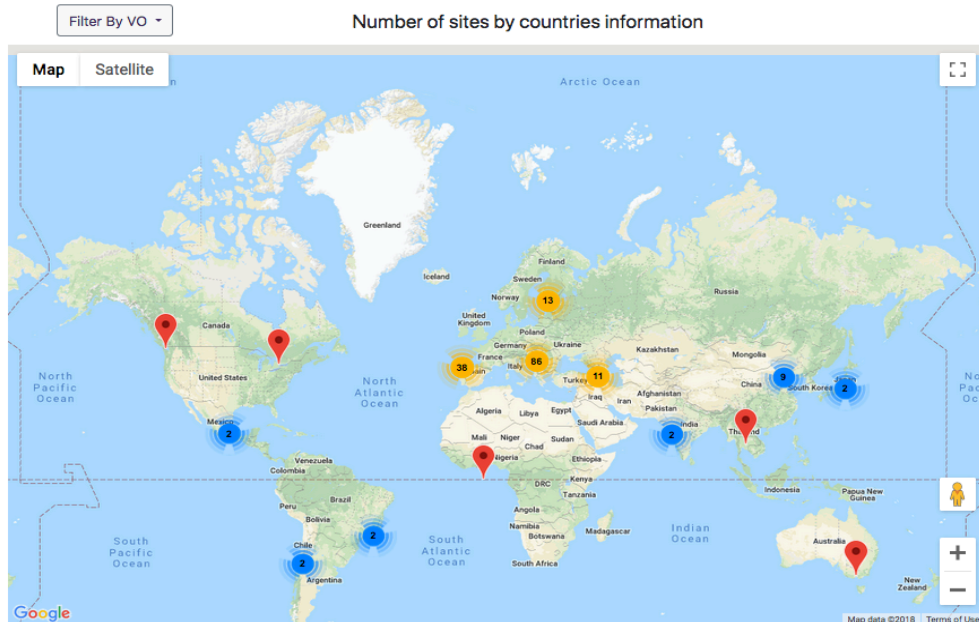
- (**TerraDue**) Geohazards Thematic Exploitation Platform – TEP – web portal and OGC Open Search and OGC Web Map Service interfaces for data discovery and visualization by developers
- (**MEEO**) Graphic User Interface portal, to support “human” interaction and OGC Open Search and OGC Web Coverage Service interfaces, to support data discovery and access by (web) developers
- (**EODC**) Jupyter-Hub
- (**Rasdaman**) Datacube Service

- openEO (<http://openeo.org/>)

- An open API to connect R, python, javascript and other clients (application layer) to big Earth observation cloud back-ends in a simple and unified way



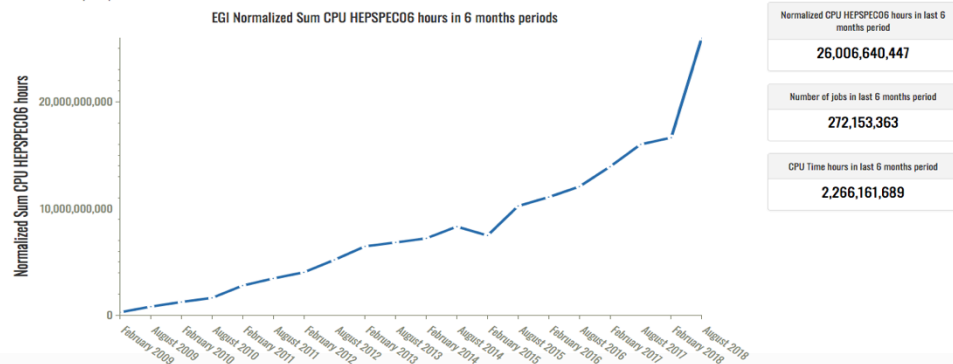
Austrian contribution to computing through the EGI Federation



Normalized Sum CPU HEPSPEC06 hours

1 Month 3 Months 6 Months Years

This graph shows the Normalized Sum CPU HEPSPEC06 hours in the whole EGI infrastructure. Only non-local jobs on official EGI VOs are accounted. Each point represents a period of 6 months counting backwards from the last complete period.



- **970,600** computing cores, **356 PB** disk & **380 PB** tape storage
- Austrian participation to EGI Federation/**HTC Compute**: Institute of High Energy Physics, Austrian Academy of Sciences and University of Innsbruck



EOSC-hub is a Commons

Openness by design

Become a provider

<https://www.eosc-hub.eu/join-as-service-provider>

Join as a service provider



The EOOSC will be Europe's virtual environment for all researchers to store, manage, analyse and re-use data for research, innovation and educational purposes. EOOSC is intended to set off the ground by federating existing scientific data infrastructures and digital infrastructures for data exploitation that are now spread across disciplines and EU member states. This will make access to scientific data and other scientific outputs easier and more efficient.

Why join as a service provider?

By contributing your services and resources to the EOOSC catalogue through EOOSC-hub, you can:

- Choose to advertise them on the Marketplace operated by EOOSC-hub and promote their adoption outside your traditional user groups, reaching a wider user base; use the marketplace as a free online platform where you can manage access requests and agree suitable service levels with the requesters; receive statistics about access requests and about customer satisfaction.
- Get support to leverage and integrate functionalities of other EOOSC provided services and resources. For example, to enable your service to scale out to cloud compute and storage resources, integrate with data services or authenticate and authorize users via federated login.
- Influence EOOSC service provisioning policies and the portfolio roadmap via the EOOSC-hub Service Management Board.
- Join the group of providers that meet EOOSC-hub quality standards.

Service requirements

To become a provider we require that:

- The service is accessible by users outside its original community.
- The service is described through a common template focused on value proposition and functional capabilities.
- At least one service instance is running in a production environment available to the user community.
- Release notes and sufficient documentation are available.
- Helpdesk channels are available for support, bug reporting and requirements gathering.
- The provider is committed to including the management of access requests through the EOOSC-hub marketplace, in addition to any other means of access requests they may currently have.

Interested?

- [Fill the online application form](#)

EOOSC: Austria takes initiative

Join as a provider

Please describe the service you would like to provide via EOOSC-hub (1 paragraph): *

Website(s) of the service: *

Entry point (URL) of the service: *

Your motivation and expectations concerning becoming an EOOSC-hub service provider: *

What are the key selling points/benefits of the service to potential users? *

Which institute(s) is/are the service provider(s)? *

Who is the main contact for the service? (name and email): *

How large is the current user base of the service? How do you expect this to change after joining EOOSC-hub? *

Under what conditions would you like to make the service available for EOOSC-hub users? Select the line(s) that apply *

Available for anyone without login
Need to login, but free to use
Need to login and conditions/restrictions apply
Fee based access (e.g. pay-for-use, monthly fee)

Submit



COMPUTE



DATA &
STORAGE



PLATFORMS



THEMATIC
SERVICES



IDENTITY &
SECURITY



PROFESSIONAL
SERVICES

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

- 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
- National infrastructures providing services for the support of the data lifecycle are necessary pillars of EOSC
- Collaboration among national and international providers is key to the success of EOSC

**Thank you
for your attention!**

Questions?



EOSC-hub

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