



# Introduction to EGI

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TLP: GREEN Limited disclosure

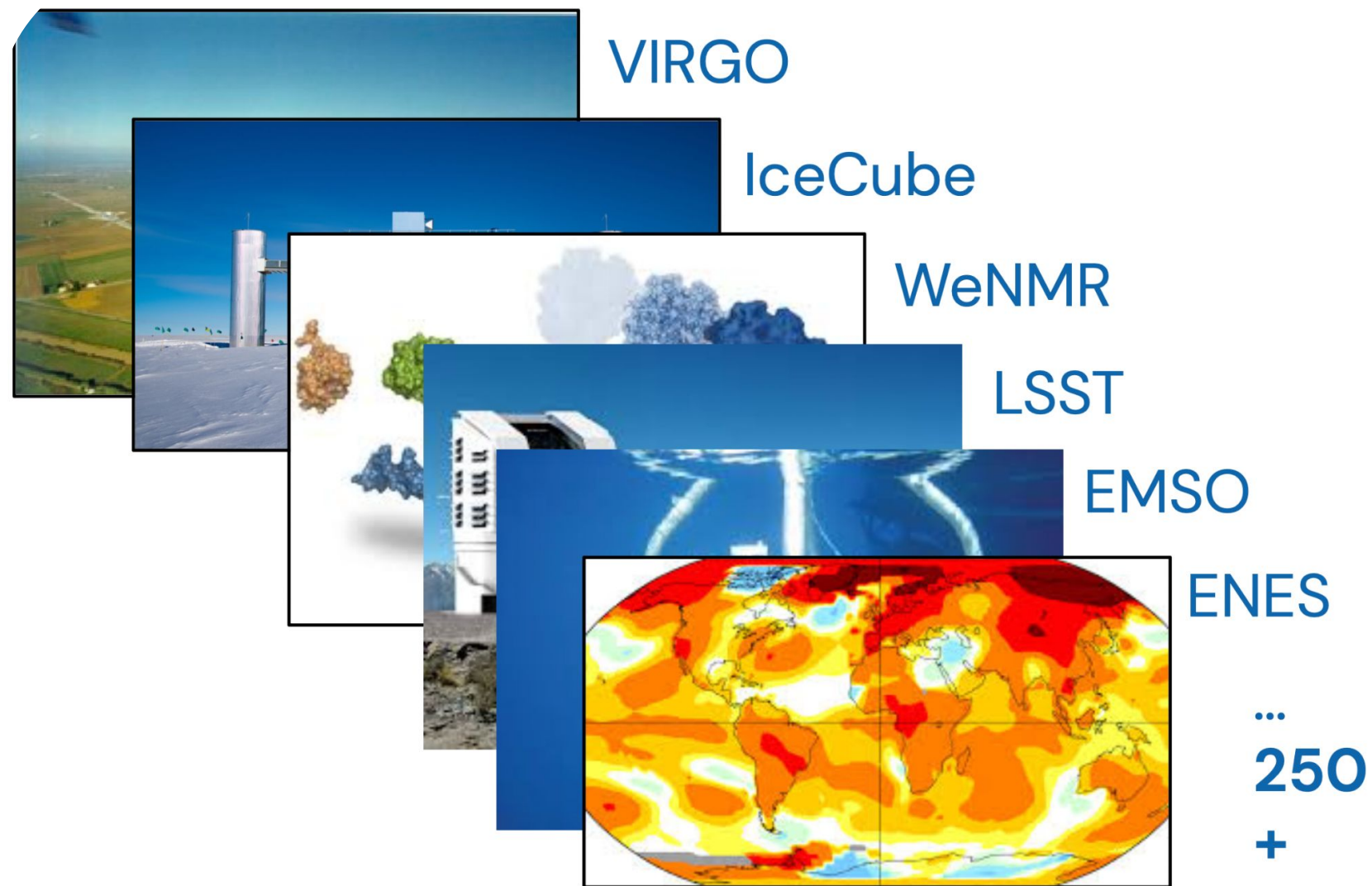
# The EGI Federation is an international e-infrastructure

We provide advanced computing and data analytics for research and innovation



## 2010

From the high-energy physics compute grid (WLCG)



## 2024

To a multi-disciplinary, multi-technology infrastructure



# EGI Council Participants

## Vision

All researchers have seamless access to services, resources and expertise to collaborate and conduct world-class research and innovation

## Mission of the EGI Federation

Deliver open solutions for advanced computing and data analytics in research and innovation

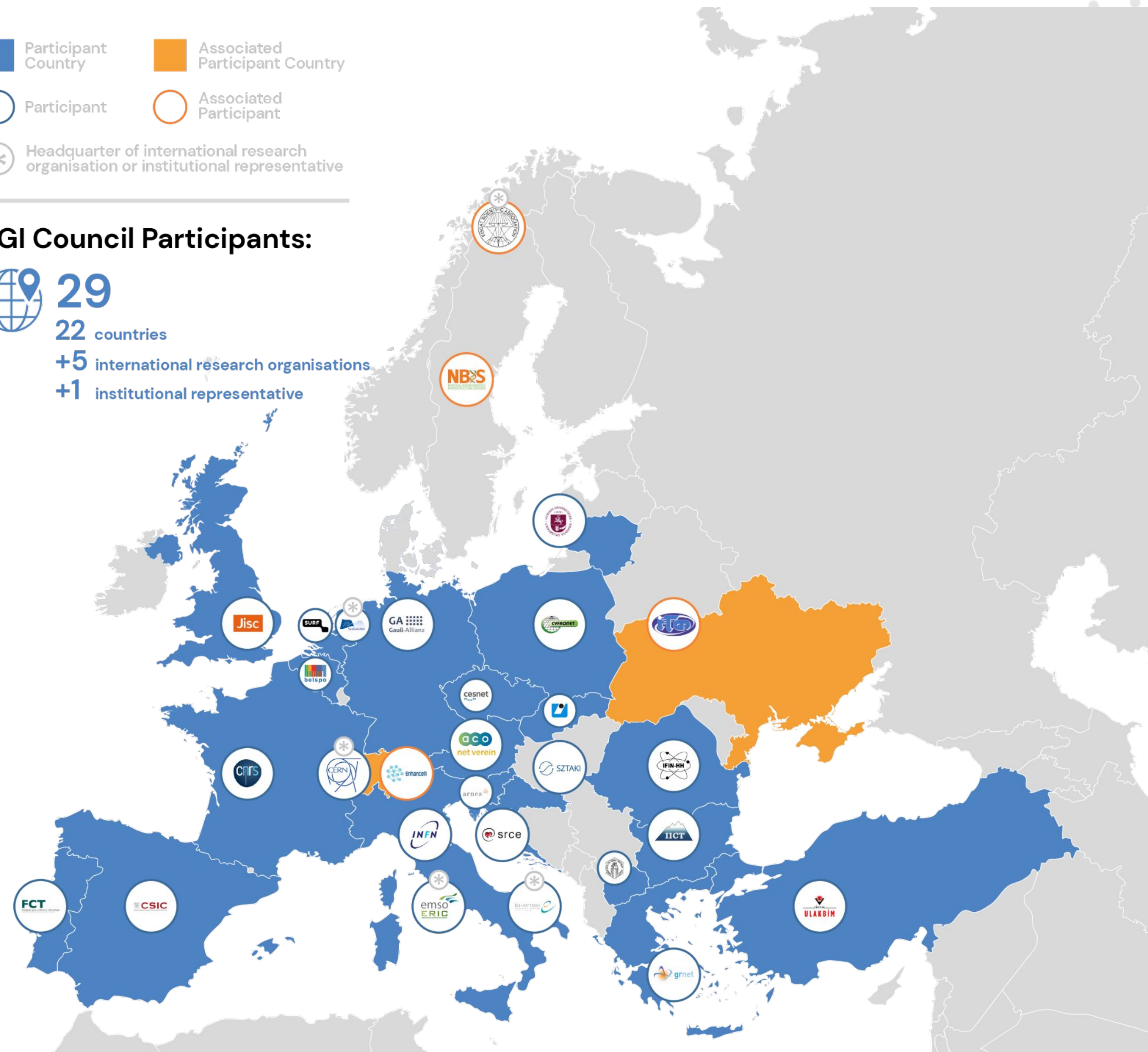
## Mission of the EGI Foundation

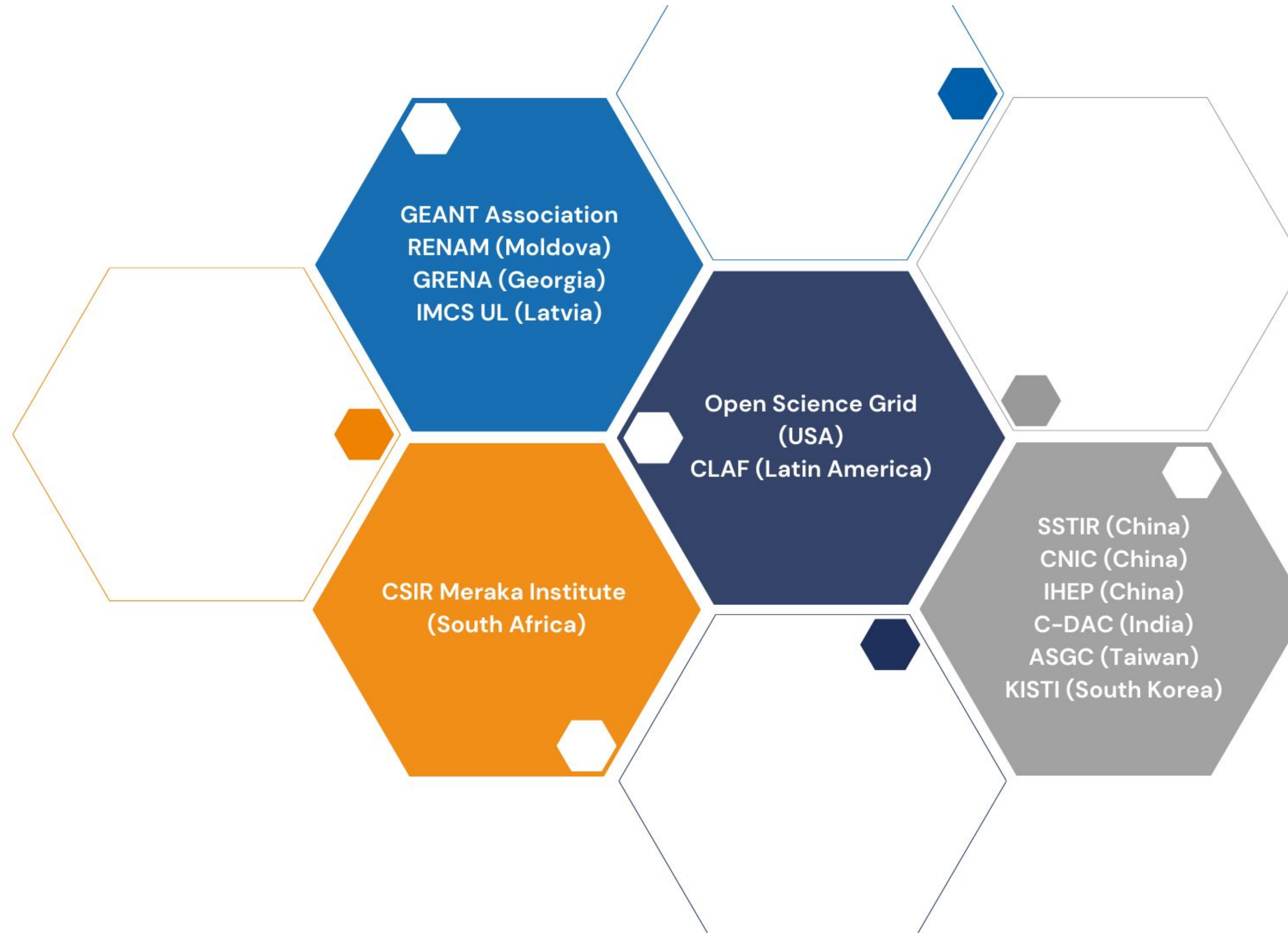
Enable the EGI Federation to serve international research and innovation together

- Participant Country
- Associated Participant Country
- Participant
- Associated Participant
- \* Headquarter of international research organisation or institutional representative

### EGI Council Participants:

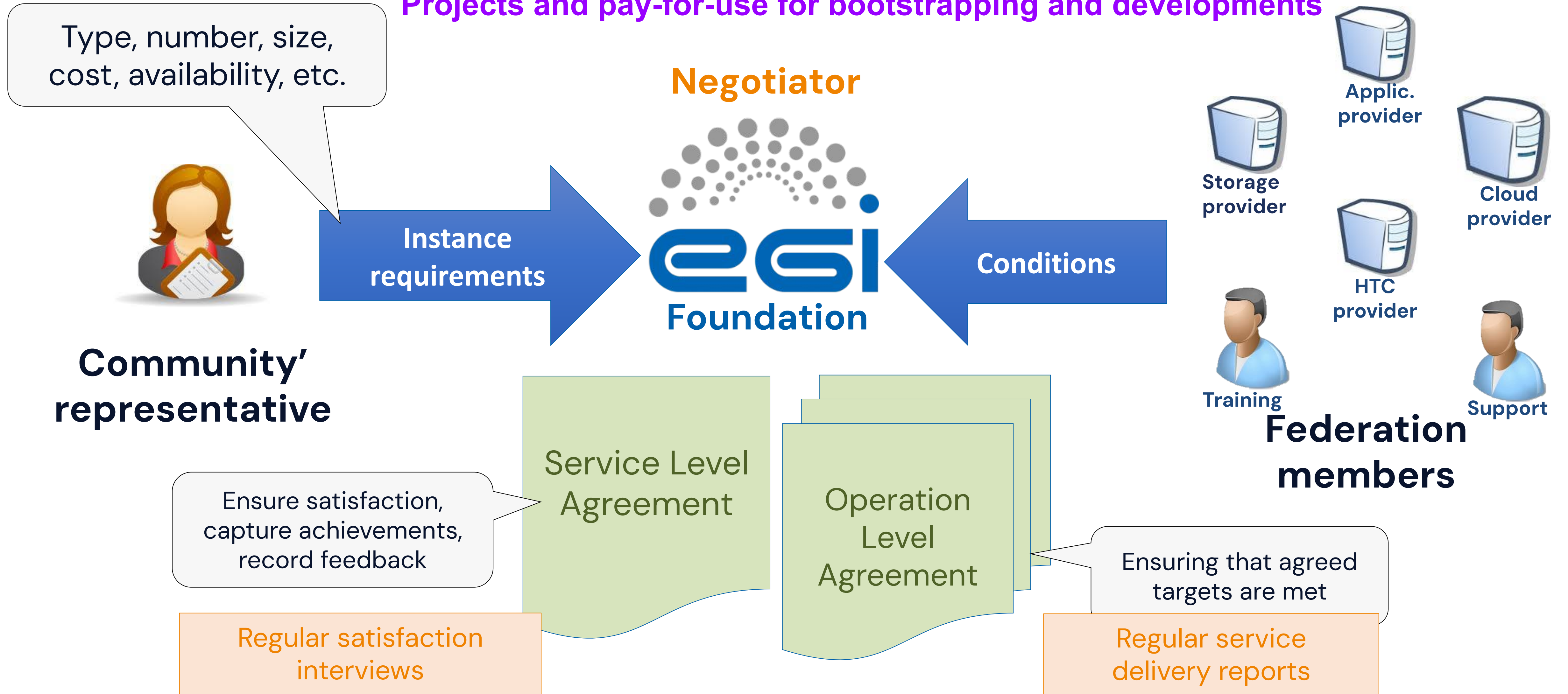
**29**  
 22 countries  
 +5 international research organisations  
 +1 institutional representative





# How does EGI engage with communities?

Sustainability comes from institutional commitments.  
Projects and pay-for-use for bootstrapping and developments





# The EGI Access Call

<https://www.egi.eu/egi-access-call/>

## Goal

The EGI Access Call offers access to:

- EGI services, resources and
- related user support and training.

Resources and services offered via the EGI Access Call are:

- **Sponsored** by various national funding agencies, and
- **free to access** for the use cases selected through the call.

[Submit your application now](#)

Read success stories [here](#)

## ✓ Wide access

Users can freely access scientific data and digital services provided by EGI resource providers

### Example:

- EGI Notebooks open instance
- EGI Cloud pool for application piloting

## ✓ Policy-based

Users are granted access based on policies defined by the EGI resource providers or by the EGI Foundation

### Example:

- Biomed HTC pool for life sciences
- INFN-Bari (IT), IN2P3-IRES (FR), ULAKBIM (TR) provide Clouds for the National Bioinformatics Infrastructure of Sweden

## ✓ Market-driven

Users can negotiate a fee to access services either directly with EGI resource providers or indirectly with the EGI Foundation

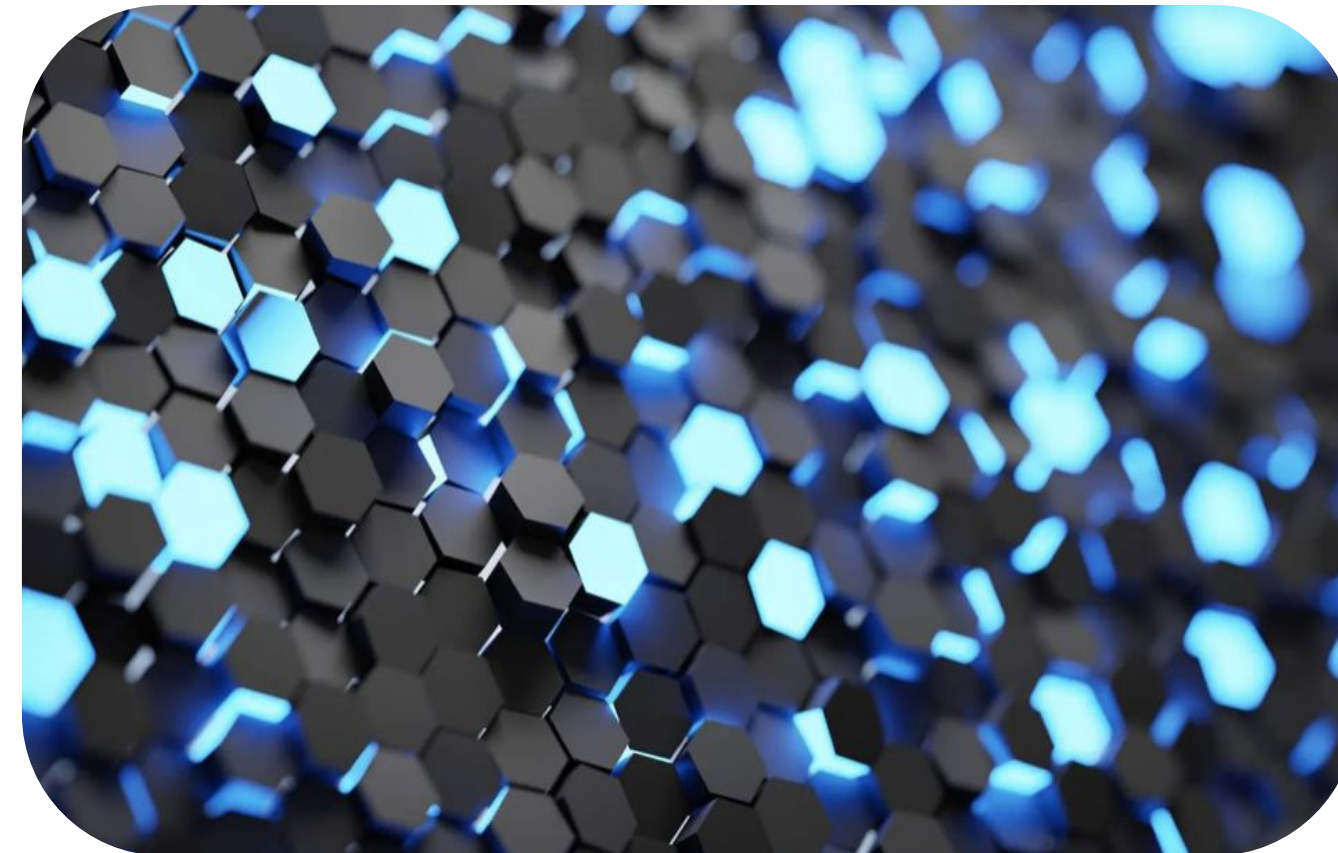
### Example:

- FitSM training by EGI Foundation
- 4 EGI Cloud providers deliver to Exprivia



## Services for Research

Our large-scale computing and data analytics services are helping scientists to accelerate their research.



## Services for Federation

Our internal services provide tools for coordination of the EGI Federation, improving how we work together.



## Services for Business

We help companies to exploit and provide services and resources for compute- and data-intensive research and innovation.





# The EGI Services for Research Portfolio

<https://www.egi.eu/services/research/>

## Compute



### Cloud Compute

Run virtual machines on demand with complete control over computing resources



### Cloud Container Compute

Run Docker containers in a lightweight virtualised environment



### High-Throughput Compute

Execute thousands of computational tasks to analyse large datasets



### Software Distribution

Publish and access software efficiently across multiple sites

## Compute Orchestration



### Workload Manager

Manage computing workloads in an efficient way



### Infrastructure Manager

Use cloud orchestrator to deploy and configure complex virtual infrastructures

## Applications



### Notebooks

Create interactive documents with live code, visualisations and text



### Replay

Reproduce and share research on a notebooks-based platform

## Storage & Data



### Datahub

Access key scientific datasets in a scalable way



### Data Transfer

Transfer large sets of data from one place to another



### Online Storage

Store, share and access your files and their metadata on a global scale

## Security & Identity



### Check-in

Login with your own credentials



### Secrets Store

Easily retrieve, manage, and rotate credentials, API keys, and other secrets through their lifecycle

## Training



### FitSM Training

Learn how to manage IT services with a pragmatic and lightweight standard



### ISO 27001 Training

Learn how to manage and secure information assets

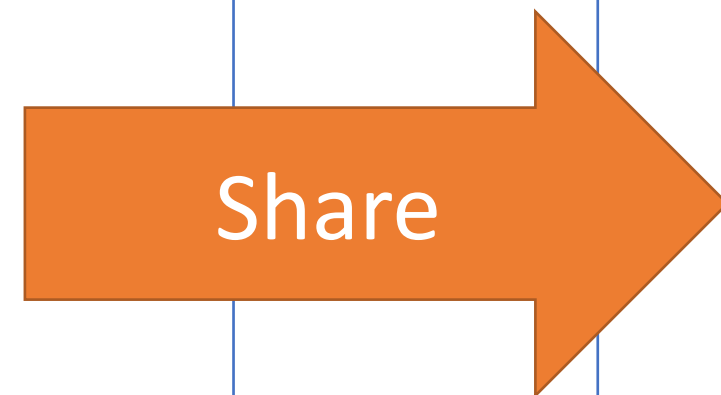
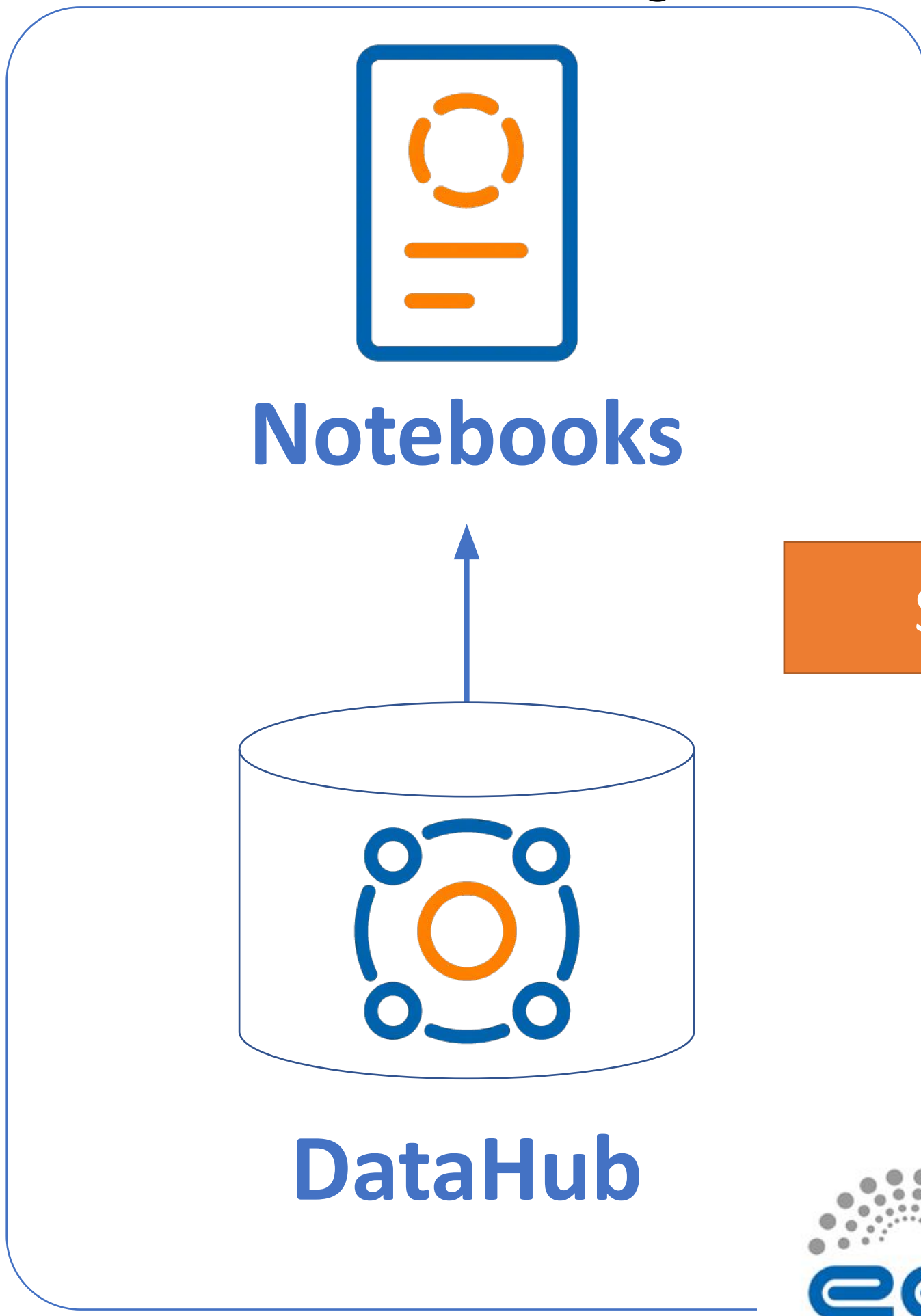


### Training Infrastructure

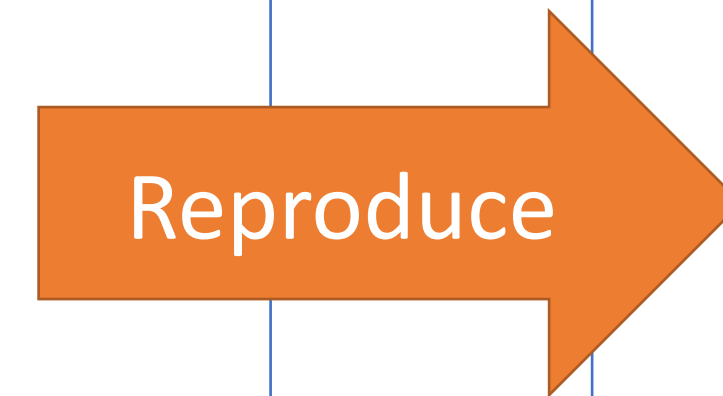
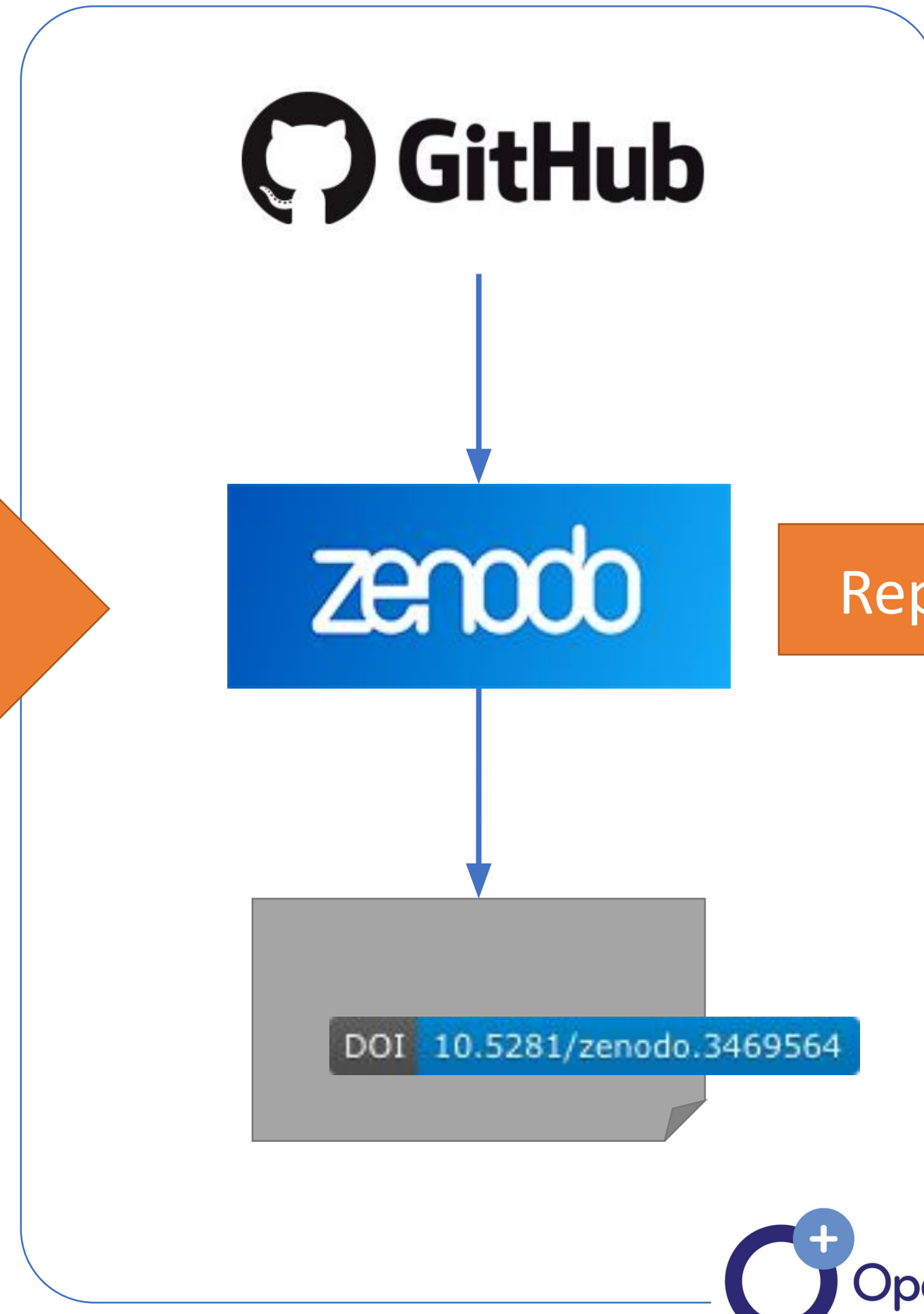
Dedicated computing and storage for training and education

User documentation: <https://docs.egi.eu>

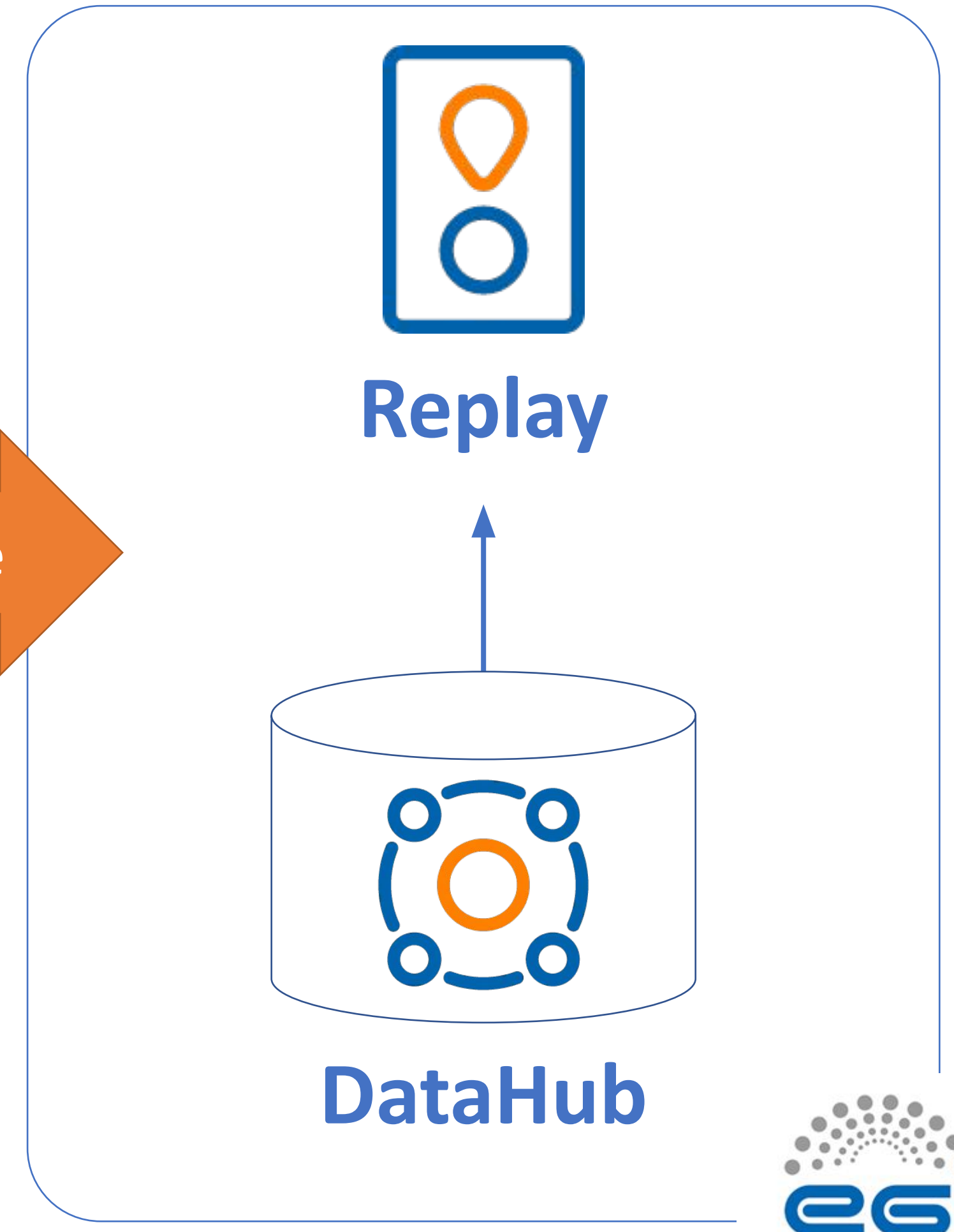
Develop processing application with reference to big data



Share application with a DOI



Re-run application, reuse data



Federated cloud and storage

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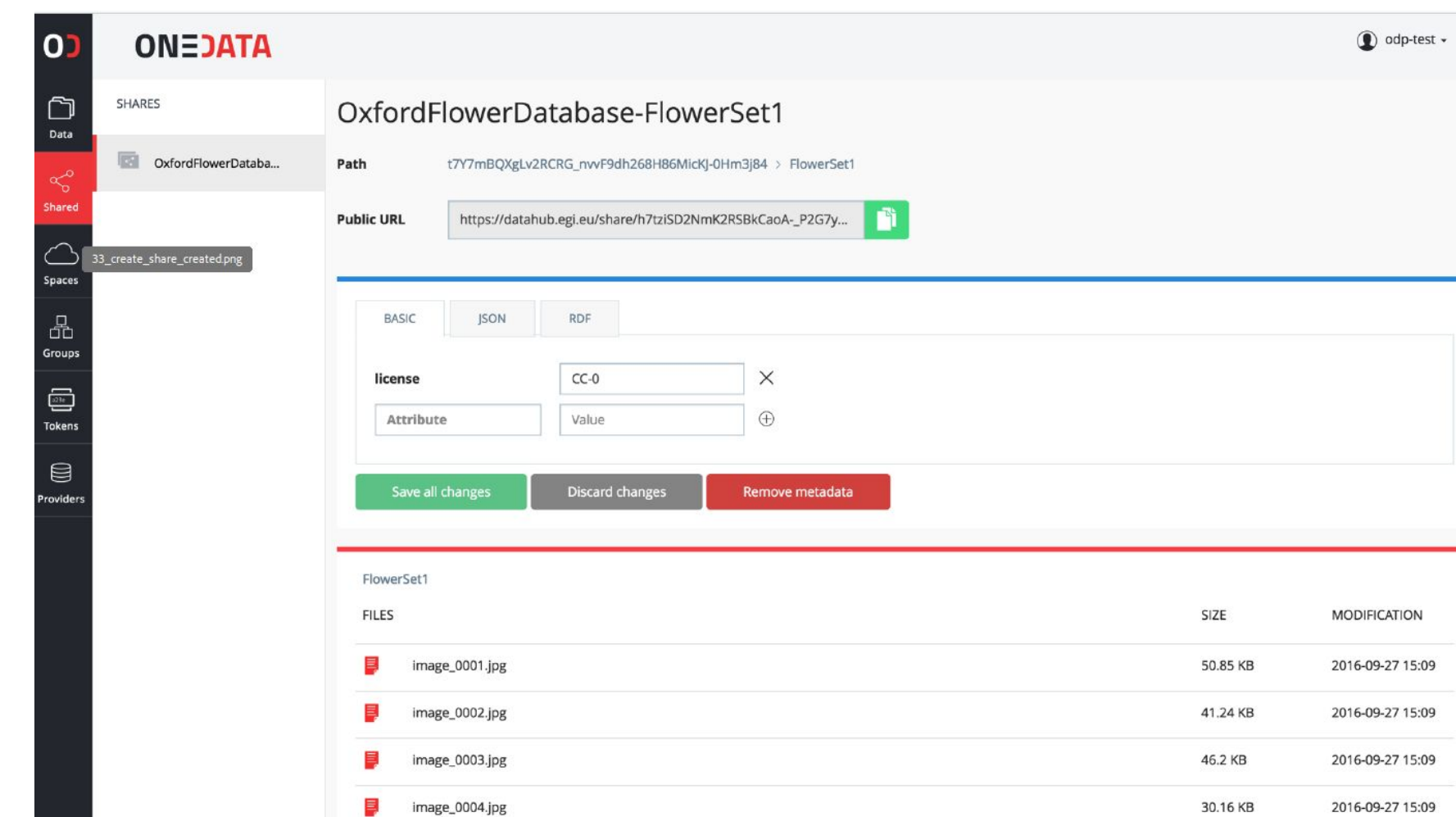
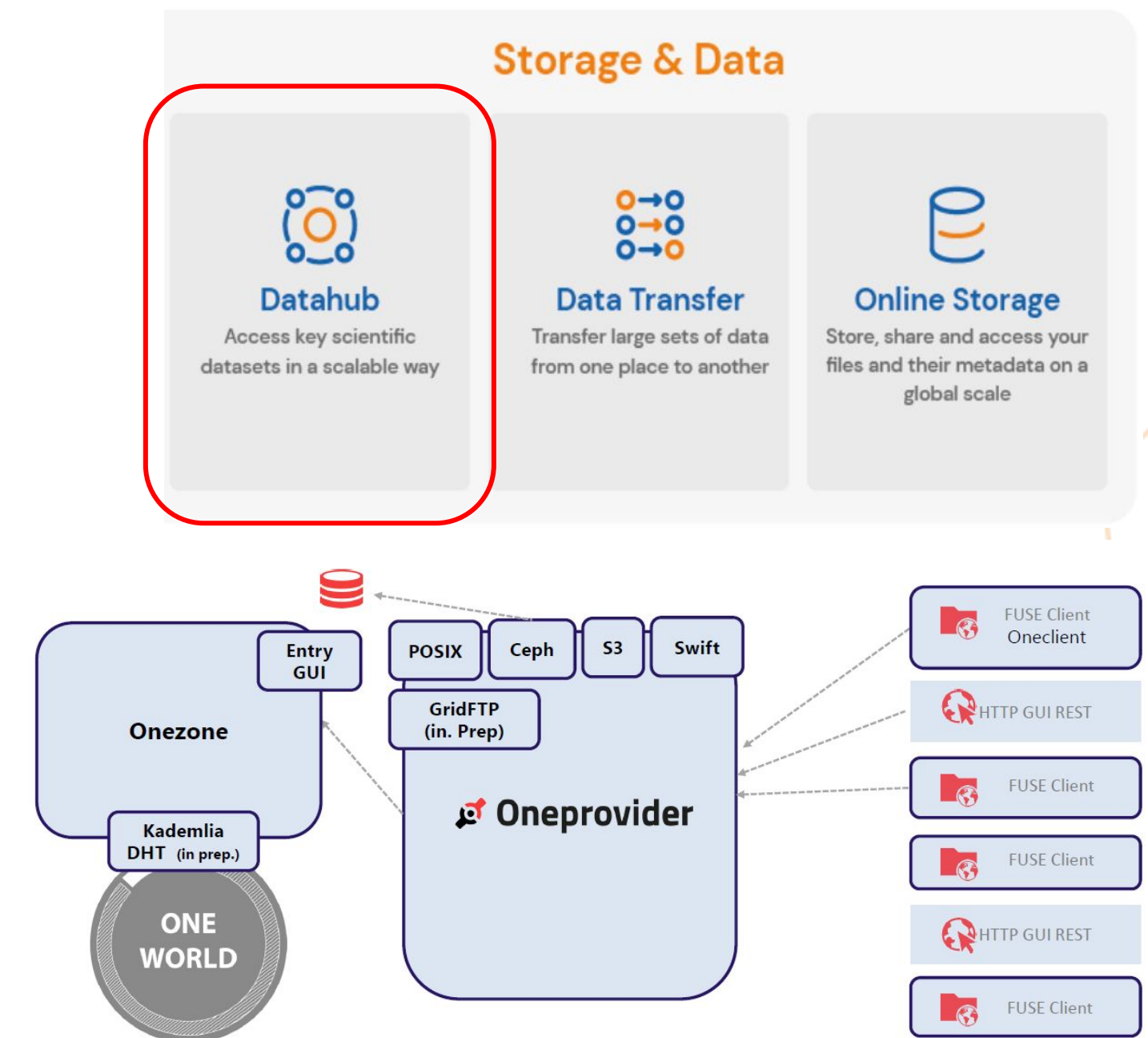


# EGI DataHub

<https://www.egi.eu/service/datahub/>

**DataHub** is a data management service that supports efficient data exploitation, data publishing and data sharing

- Based on OneData.
- Datasets can be stored in **distributed nodes** transparently for the user.
- Different **types of storage** virtualised (S3, POSIX, Ceph, OpenStack Swift...).
- **Metadata management** for files and directories.
- **GUI** and **API** to query files by metadata, time, owner etc.
- Automatic retrieval of **PIDs** for open data.
- Data access **permissions** based on ACL and others.





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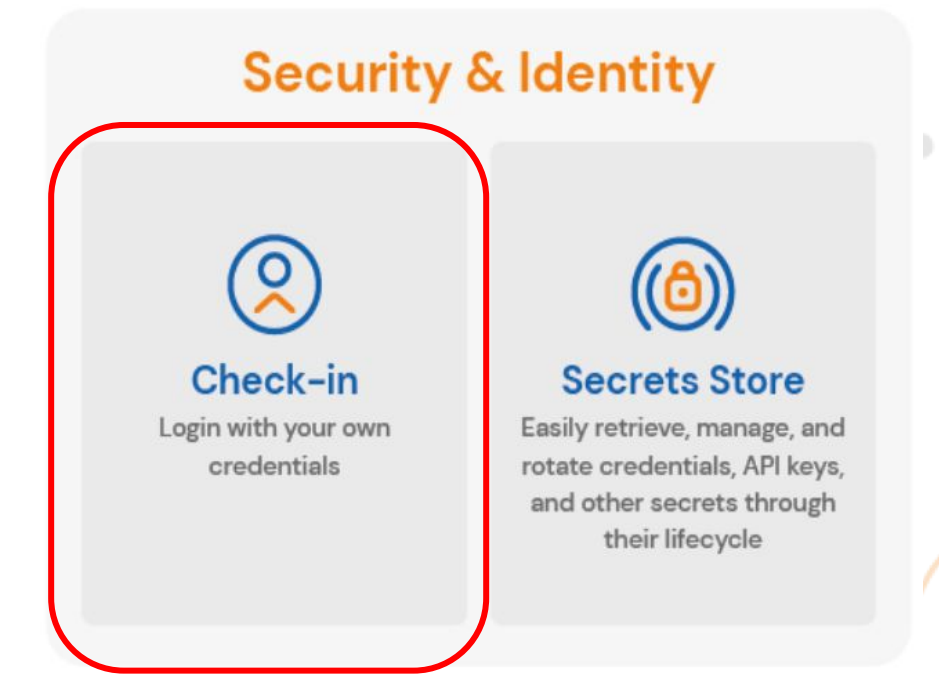
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# EGI Check-in

<https://www.egi.eu/service/check-in/>



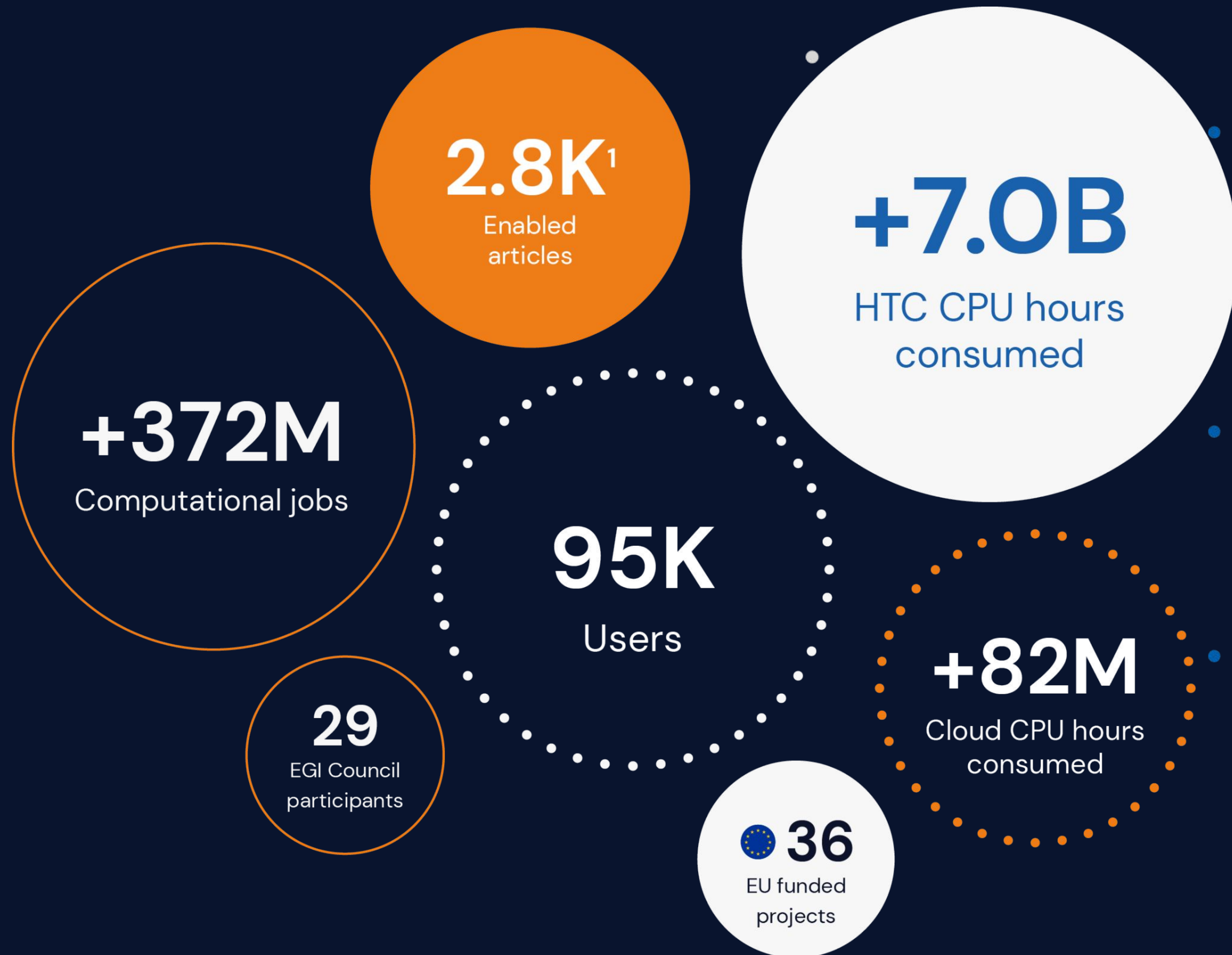
An identity and access management system that deals with **Authentication** and **Authorisation** of users.

- Supports OAuth 2.0 / OIDC, SAML, X.509 Certificates
- **User authentication** through a variety of Identity Providers – Research institutions in eduGAIN, Google, ORCID, LinkedIn
- **User authorisation** based on Virtual Organisations (VO) to organise communities, through groups and roles
- Management of different user identities (accounts).
- Unified user attributes

**Session:** Trust and Security – Thu 03, 09:00 CEST



# EGI in Numbers (annual statistics 2024)





Thank you!

[support@egi.eu](mailto:support@egi.eu)

[www.egi.eu](http://www.egi.eu)



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