



EGI Federation

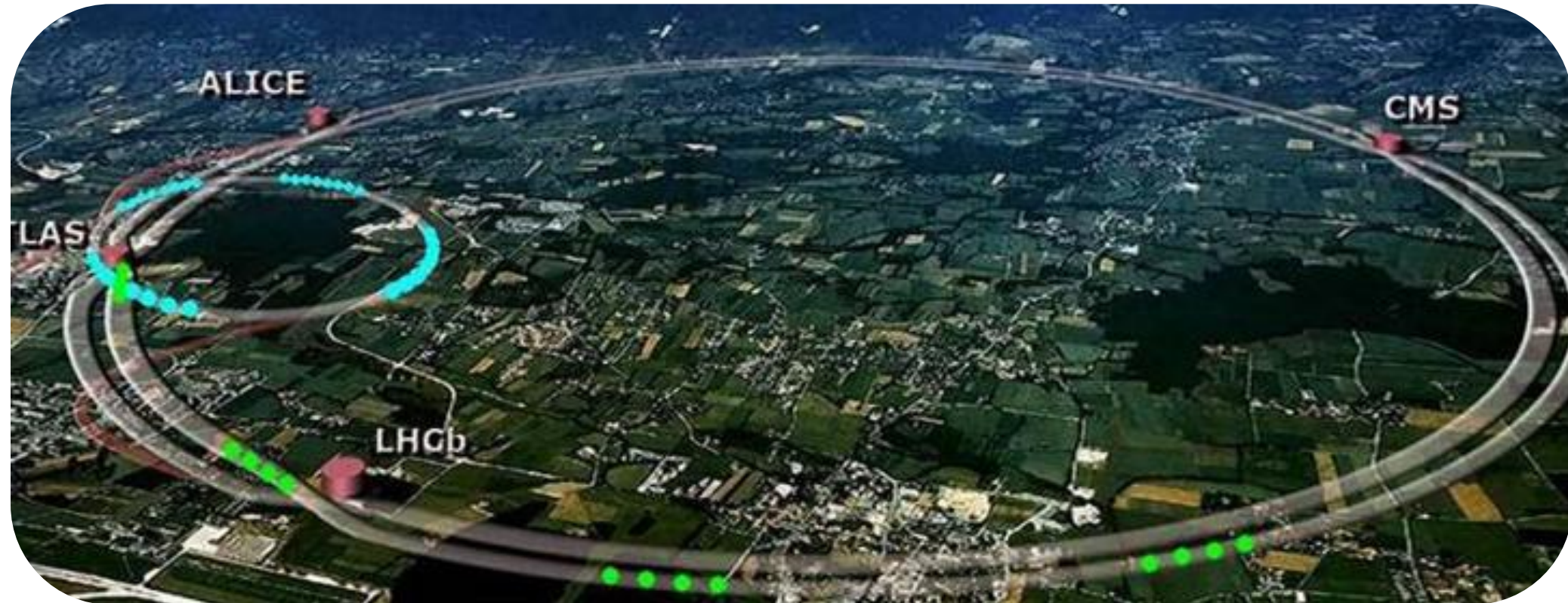
Experience and Recommendations

Matthew Viljoen,
Service Delivery and Information Security lead, EGI Foundation

Data-intensive computing for research

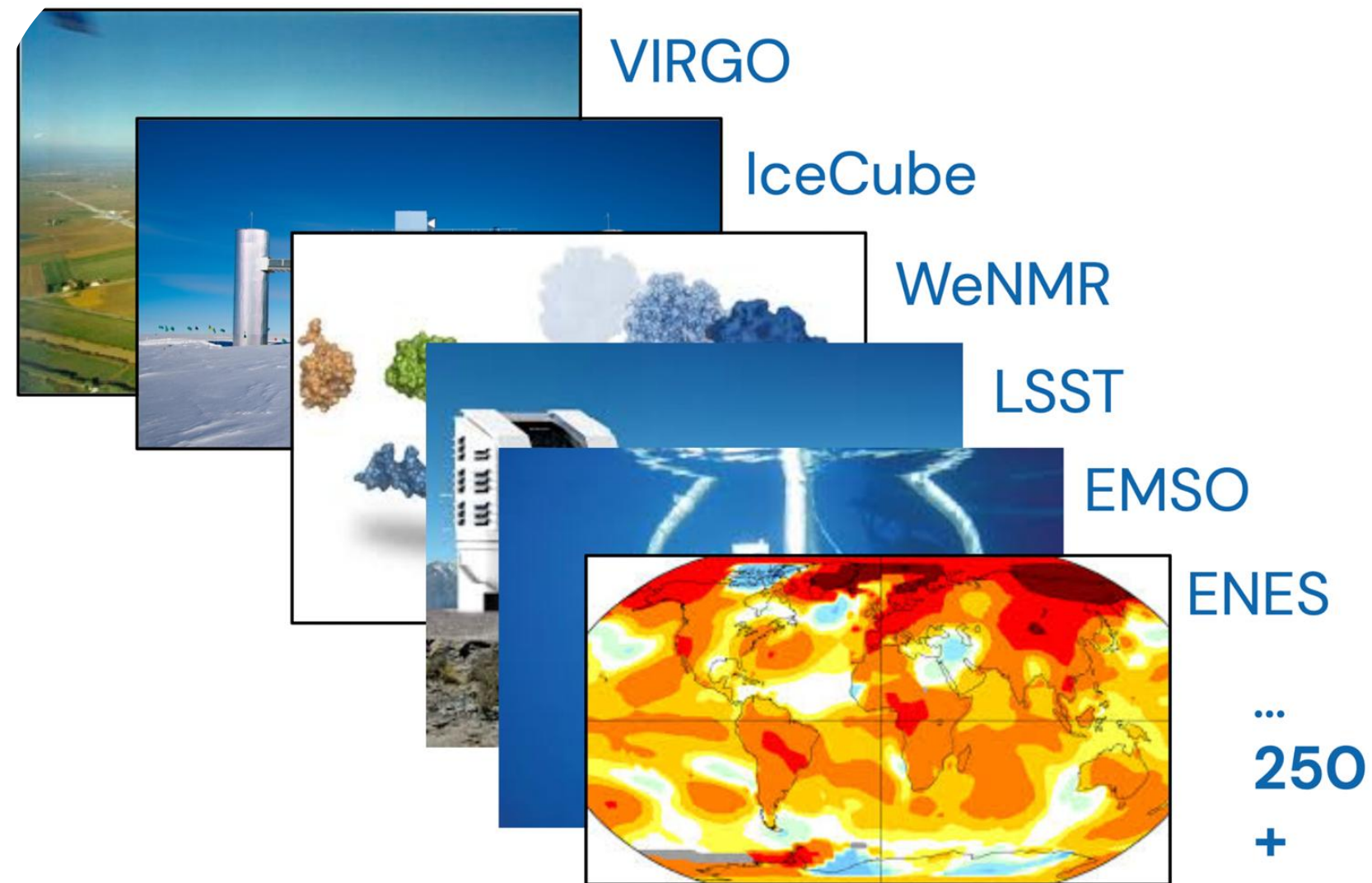
The EGI Federation is an international e-infrastructure

Coordinated by the EGI *Foundation*, we provide advanced computing and data analytics services for research and innovation



2010 (used to be called European Grid Infrastructure)

From the Large Hadron Collider compute grid...



2025 (Now called simply "EGI")

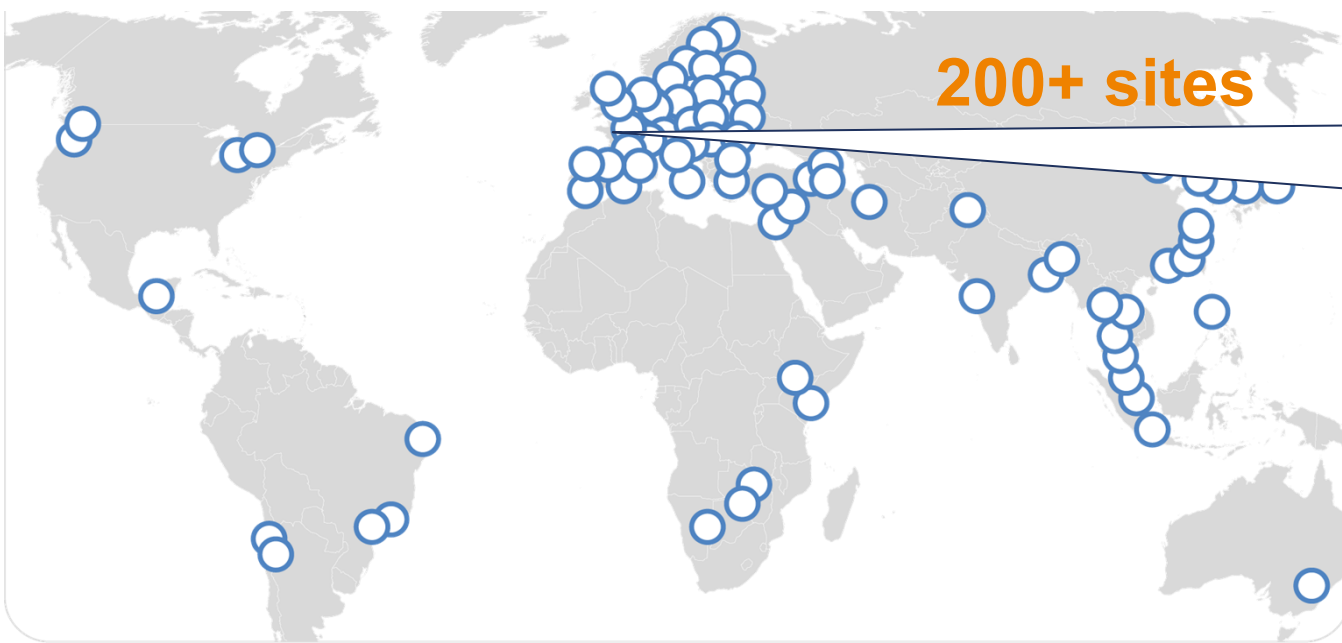
...to a multidisciplinary, multi-technology **infrastructure** and **innovation community**



ESGI as an **infrastructure** federation

From infrastructure complexity to a compute continuum

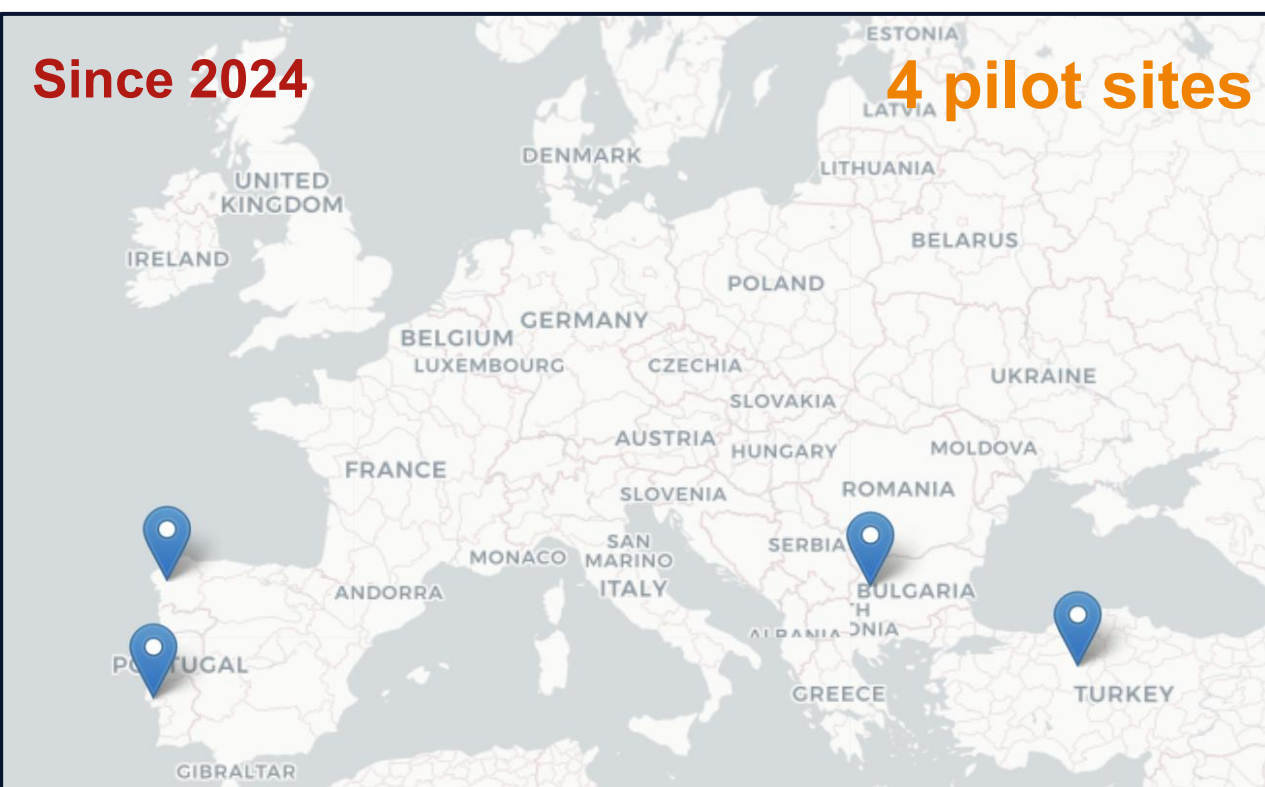
High Throughput Compute



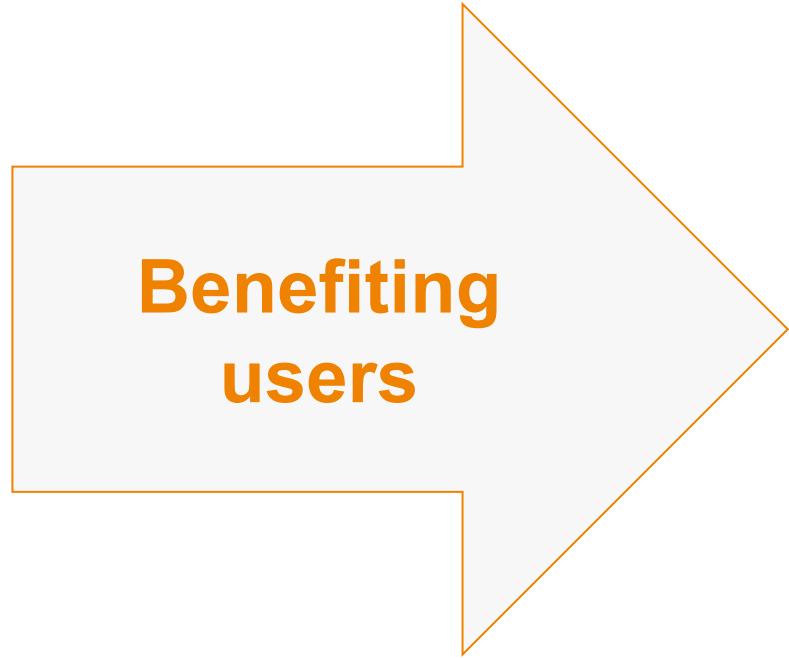
Cloud compute



High Performance Compute



Integrated management capabilities
Availability–reliability monitoring, User enabling, Resource allocation, Security oversight, etc.



Harmonised behaviour and access
Workload and data management, Containers, IP addresses, etc.

Tools and Services to enable the federation

Offered by the EGI Foundation to the members of the EGI Council

Coordination Services

- Operations Coordination and Support
- Community Coordination
- ITSM Coordination
- Technical Coordination
- Project Management and Planning
- Security Coordination
- Strategy and Policy Development
- Communications
- Industry Engagement

Technical Tools

- Accounting  
- Collaboration Tools  
- Configuration Database 
- Operational Tools 
- Helpdesk 
- Service Monitoring   
- Validated Software and Repository  

Security and Identity

- Check-in 
- Attribute Management 





EGI Services for research

EGI.EU is either a broker for capacity OR an transparent enabler

VALUE ADDED

Applications

Notebooks
Create interactive documents with live code, visualisations and text

Replay
Reproduce and share research on a notebooks-based platform

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

FEDERATED ACCESS

Compute Orchestration

Workload Manager
Manage computing workloads in an efficient way

Infrastructure Manager
Use cloud orchestrator to deploy and configure complex virtual infrastructures

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

Capacity allocation through EGI.EU OR directly from sites

INFRASTRUCTURE

Compute

High-Throughput Compute
Execute thousands of computational tasks to analyse large datasets

Cloud Compute
Run virtual machines on demand with complete control over computing resources

Cloud Container Compute
Run Docker containers in a lightweight virtualised environment

Software Distribution
Publish and access software efficiently across multiple sites

Storage & Data

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

Data Transfer
Transfer large sets of data from one place to another

Datahub
Access key scientific datasets in a scalable way



EGi as an **innovation** community

EGI Coordinated Projects

ENVRI-Hub NEXT
ENVRI-Hub NEXT consolidates and advances the robust conceptual and technical structure established by the ENVRI-Hub.

EOSC Beyond
Advancing innovation and collaboration for research

EOSC Data Commons
Building a Collaborative Future for Research Data

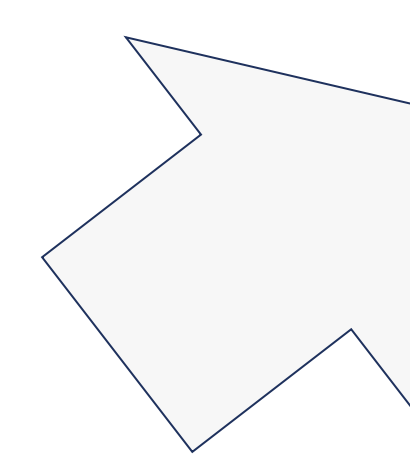
RI-SCALE
RI-SCALE empowers Research Infrastructures by providing scalable computational platforms for AI-driven data analysis, improving data

SPECTRUM
SPECTRUM brings together leading European science organisations and e-Infrastructure providers to formulate a Strategic Research

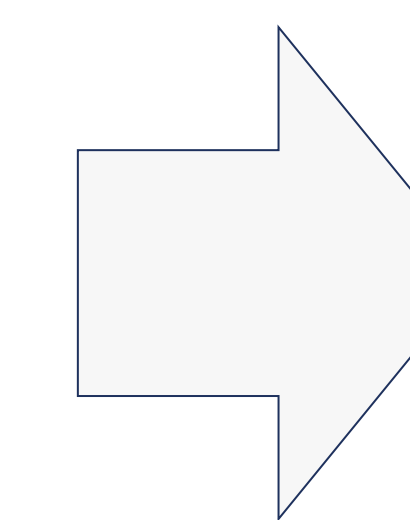
Bringing over 8.7M to the EGI Community in 2025

EGI Community Participated Projects

Logo	Name	Start Date	End Date	Website
	SoBigData++	01 Jan 2020	31 Dec 2024	project.sobigdata.eu
	EUREKA3D	01 Jan 2023	31 Dec 2024	eureka3d.eu
	LABPLAS	01 Jun 2021	31 May 2025	labplas.eu
	PITHIA-NRF	01 Apr 2021	31 May 2025	pithia-nrf.eu
	LETHE	01 Jan 2021	31 May 2025	www.lethe-project.eu
	TANGO	01 Sep 2022	31 Aug 2025	tango-project.eu
	EuroScienceGateway	01 Sep 2022	31 Aug 2025	galaxyproject.org/projects/esg
	SoBigData RI	01 Oct 2022	30 Sep 2025	www.sobigdata.eu
	AI4Europe	01 Jul 2022	31 Dec 2025	www.ai4europe.eu
	Graspos	01 Jan 2023	31 Dec 2025	graspos.eu
	DATAMITE	01 Jan 2023	31 Dec 2025	datamite-horizon.eu
	CRAFT-OA	01 Jan 2023	31 Dec 2025	www.craft-oa.eu
	AARC Tree	01 Mar 2024	28 Feb 2026	aarc-project.eu
	Blue-Cloud 2026	01 Jan 2023	30 Jun 2026	blue-cloud.org
	EUCAIM	01 Jan 2023	31 Dec 2026	cancerimage.eu
	ANERIS	01 Jan 2023	31 Dec 2026	aneris.eu
	GreenDIGIT	01 Mar 2024	28 Feb 2027	egi.eu/article/greendigit-project-kicks-off
	PHENET	01 Jan 2023	31 Dec 2027	www.phenet.eu/en
	EOSC-Focus	01 Jun 2022	31 May 2025	eosc.eu/eosc-focus-project
	DSSC	01 Oct 2022	30 Sep 2026	dssc.eu
	IRISCC	01 Apr 2024	01 Oct 2028	www.iriscc.eu
	ECHOES	01 Jun 2024	31 May 2029	www.URLHERE.eu
	SAGE	01 Mar 2025	29 Feb 2028	www.URLHERE.eu
	UNCAN-Connect	01 Sep 2025	31 Aug 2030	https://uncan.eu/
	EUREKA3D-XR	01 Feb 2025	31 Jul 2026	eureka3d.eu

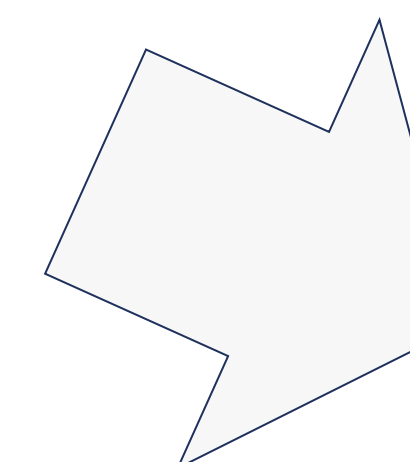


Broader uptake and customisation



New services, new approaches

NEW: ENSURE project with STFC to start in 2026Q3.
→ New accounting system



New initiatives, such as EOSC, Data spaces, RAISE (AI)

NEW: SCIANCE project in RAISE from 2025Q4
→ Foundation of the RAISE initiative

List of Participants

Participant No.	Participant Organisation Name	Acronym	Country
1 (Coordinator)	European Science Foundation	ESF	France
2	EGI Foundation	EGI	Netherlands
3	OpenAIRE AMKE	OpenAIRE	Greece
4	Consiglio Nazionale delle Ricerche	CNR	Italy
5	Euro-Biolmaging ERIC	Euro-Biolmaging	Finland
6	– European Molecular Biology Laboratory (affiliated)	EMBL	Germany
7	Constructor University	CU	Germany
8	University of Manchester	MU	United-Kingdom
9	University of Twente	UT-ITC	Netherlands
10	National Institute for Subatomic Physics	Nikhef	Netherlands
11	German Research Center for Artificial Intelligence	DFKI	Germany
12	HUN-REN Institute for Computer Science and Control	SZTAKI	Hungary
13	Big Data Value Association	BDVA	Belgium

OBJECTIVES



O#1 MAPPING
the European AI-in-Science Landscape



O#2 CO-DEFINING
Research and Innovation Priorities



O#3 ASSESSING
Research and Innovation Infrastructure Requirements



O#4 ENABLING
AI in Science Community Building and Sustainability

RESULTS



KER#1
Evidence Baseline



KER#2
Strategic Research & Innovation Agenda (SRIA)



KER#3
Implementation Roadmap



KER#4
RAISE Pilot Functions

OUTCOMES



Shared Priorities for AI in Science
reinforcing Europe's scientific global leadership



Adoption of AI in science
through optimised access to infrastructures, data and talent



AI in Science Ecosystem
through sustainable cooperation mechanisms

IMPACTS



SCIENTIFIC
AI-enabled groundbreaking scientific discoveries



ECONOMIC
Increased EU competitiveness in AI-enabled science



POLICY
Coordinated strategies & investments across Europe



SOCIETAL
Promoting responsible AI, trust in AI-enabled science

Main Features

- **Foundation for a Federated Infrastructure**
 - ◆ 200+ federated Service Providers
 - ◆ 80K+ logins per year
- **Trust, Interoperability and EOSC Alignment**
 - ◆ Based on AARC Blueprint Architecture
 - ◆ Interoperable with EOSC EU Node and AAI
 - ◆ Serving other new EOSC (National) Node
- **Certified and Production-Grade Setup**
 - ◆ Operational since 2019
 - ◆ GDPR-aligned data protection framework
 - ◆ Regular policy and compliance reviews
 - ◆ Security Incident Response procedures
 - ◆ Risks Assessment
 - ◆ SLA-backed managed service



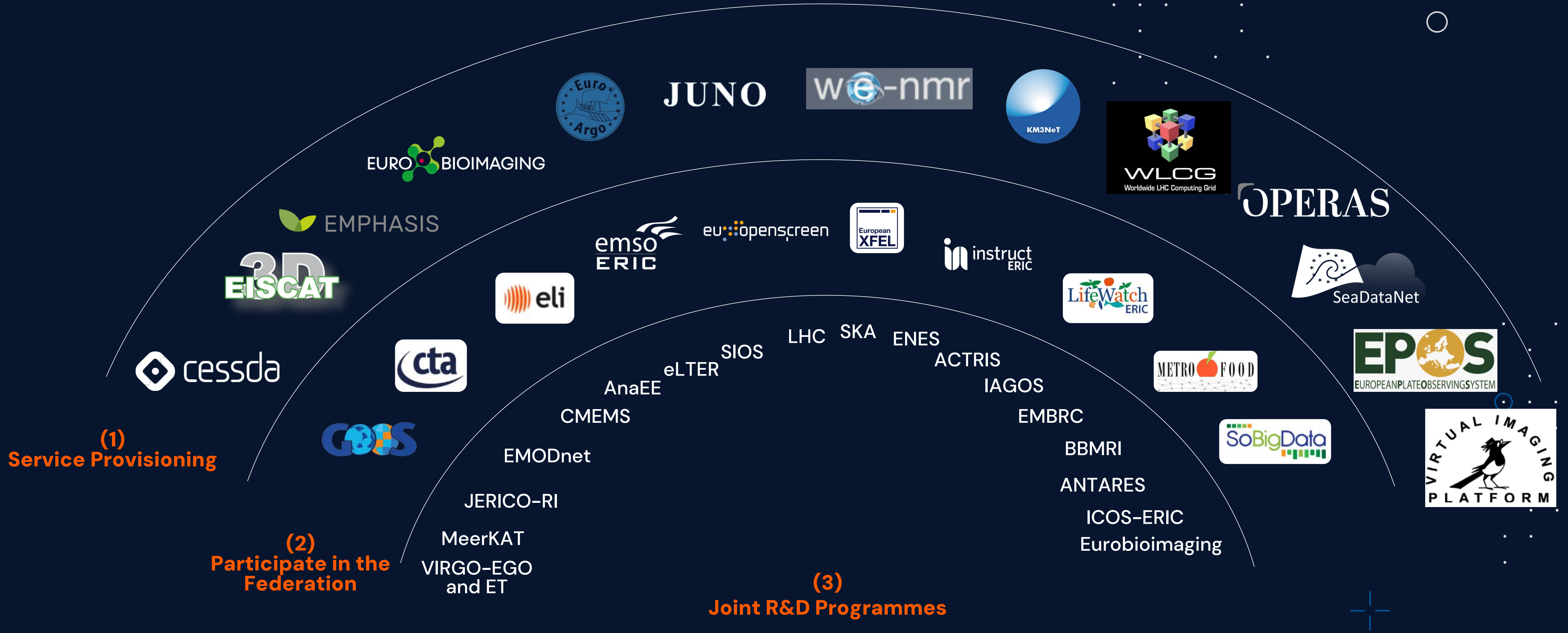
Adoption options

- **EGI shared Instance**
 - ◆ For EGI Council members and represented orgs.
 - ◆ Fast onboarding for services
 - ◆ Ideal for small and emerging communities
- **Dedicated AAI Federation Instance**
 - ◆ National governance and policy alignment
 - ◆ Harmonised data protection and compliance framework
 - ◆ Local support for community onboarding
 - ◆ Scalable architecture for multi-institution adoption
 - ◆ Custom branding



Look into the future

Working with/for thematic Research Infrastructures



From HTC compute to compute-data continuum

Consultation is now open:
<https://www.spectrumproject.eu/spectrum-consultation>

Challenges:

1. More AI (data and sites and software need to be AI-ready)
2. Cross-border delivery (business models and predictable funding)
3. Innovation ecosystem across projects



2000-2003

2004-2007

2008-2010

2014

2025

Consultation: A shared vision for future data-intensive science in Europe

Discover the draft SRIDA and Technical
Blueprint – and provide your input!



<https://www.spectrumproject.eu/spectrum-consultation>

spectrumproject.eu

- Consistent AAI (**EGI Check-In**) essential
- Importance of portfolio of federation services (e.g. Helpdesk, Security, AAI, CMDDB etc.)
 - Economies of scale
 - Sustainable business model (council fees for service delivery + EC projects for new functionality)
- **IT service management**
 - Gives organisation, common knowledge landscape, vocabulary
 - Training for service admins, designers, user support teams, etc.
- **Multiple large infrastructures co-exists**
 - EGI federation experience re-used in EOSC, Data Spaces, RAISE, etc.

 Thank you! ✕

#EGI2026

CALL FOR CONTRIBUTIONS

CALL OPENS
FEB. 24

CALL CLOSSES
APR. 13

Access the Call go.egi.eu/EGI2026

EGI2026

DATE
**SEPT. 21
— 25, 2026**

LOCATION
**BIJLOKE /
GHENT, BELGIUM**



**EGI
2026 EGI
EGI2026**

SEPT 2026



**National Federated
Compute Services**
NetworkPlus

**Spring Conference
26-27 February 2026**

International Perspectives Q&A

