

EGI Compute and Data Services for Open Access in H2020

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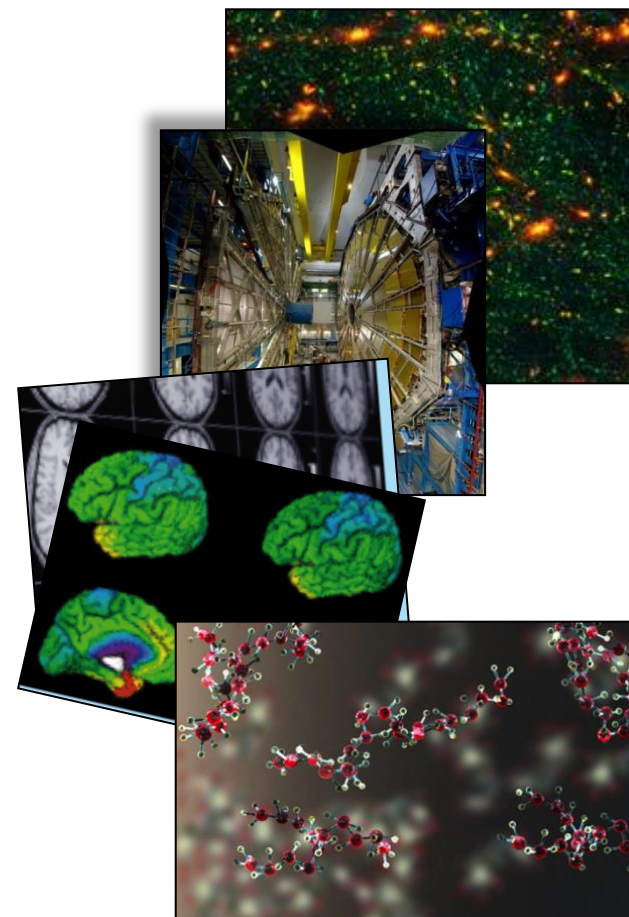
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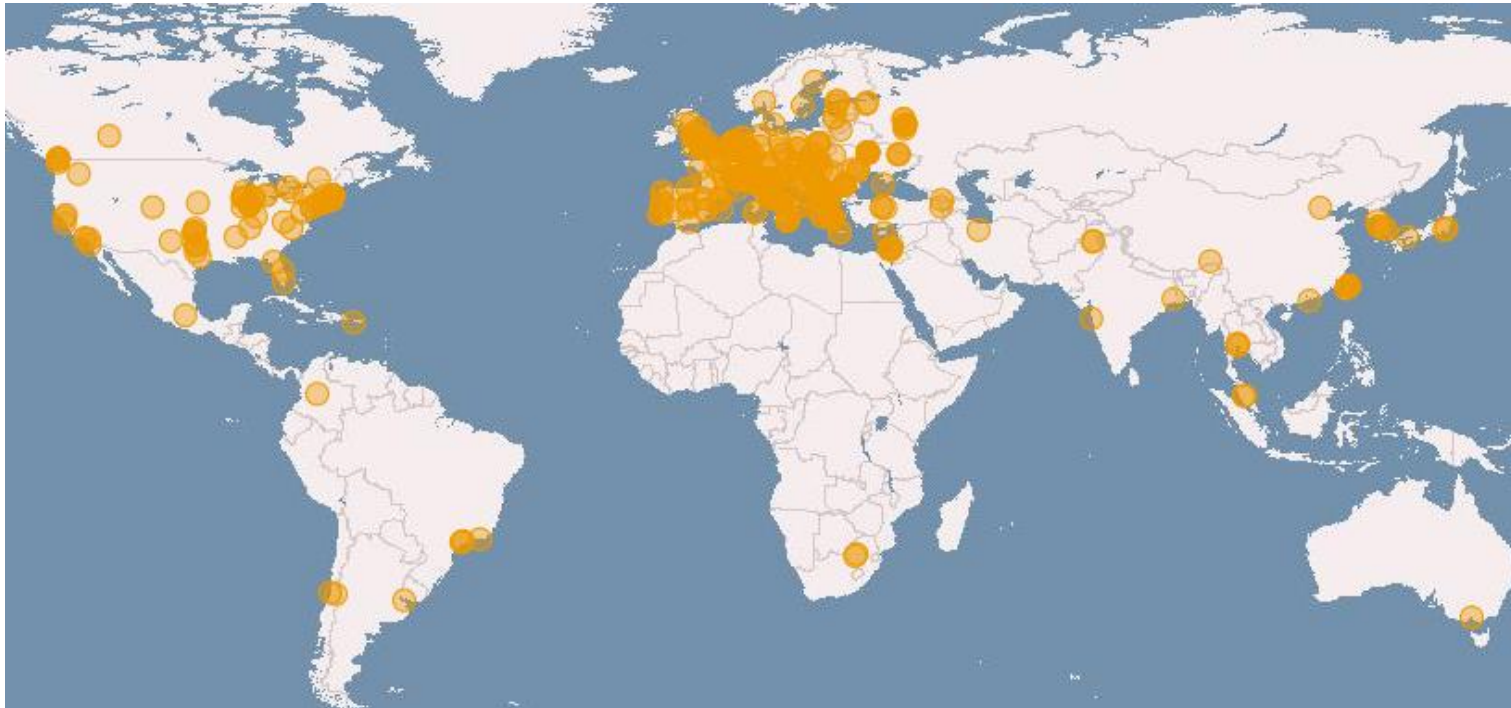
- What is EGI?
- Services for Researchers
- Supporting Open Access
- Collaboration with EGI

MISSION. To support **researchers** from **all disciplines** with the **reliable and innovative ICT services** they need to **accelerate excellent science**

- Natural sciences
- Physical sciences
- Medical and health sciences
- Engineering and technology
- ...

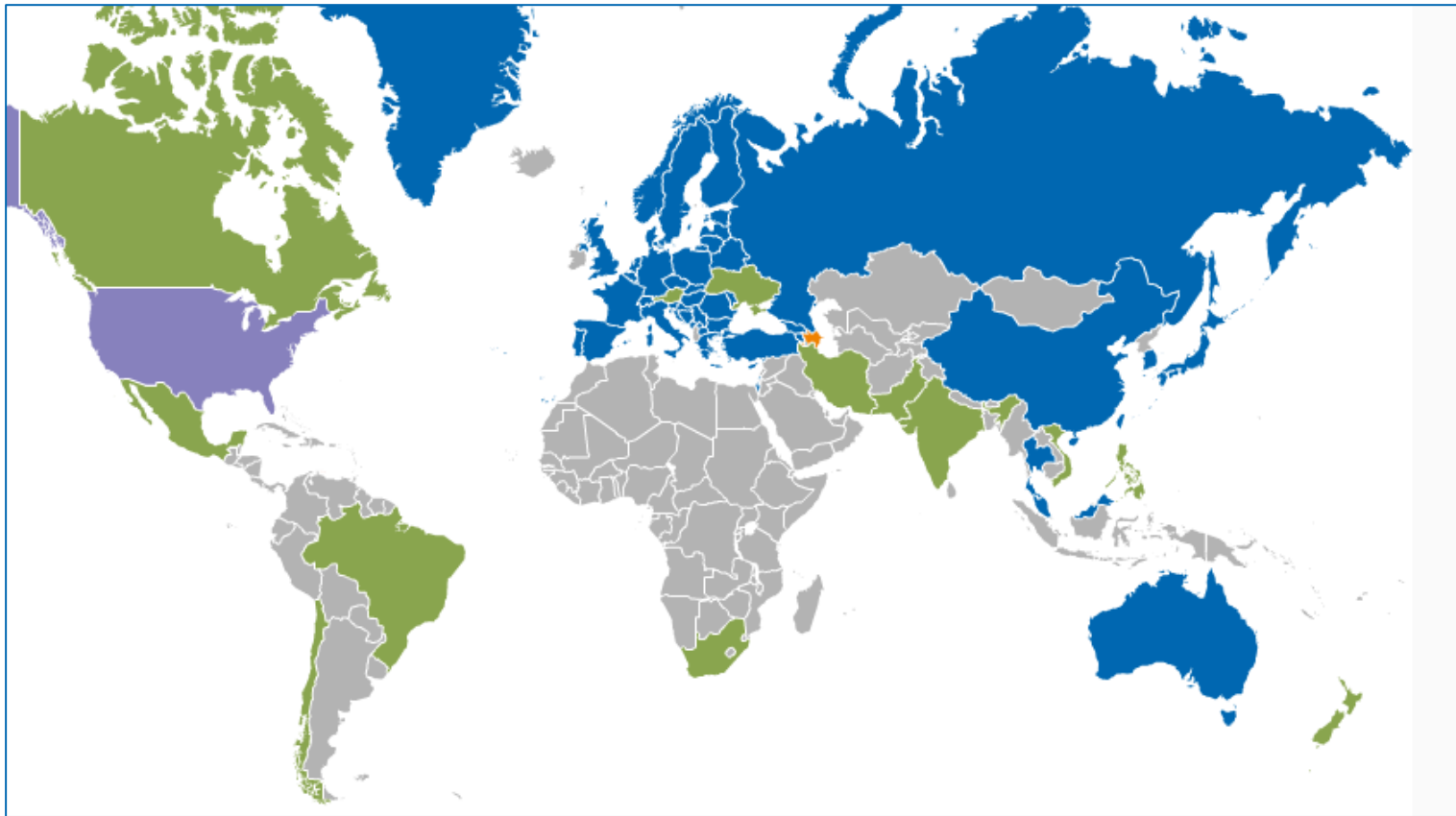


<http://www.egi.eu/case-studies/>



Distributed and federated data and computing facilities
Grid and Cloud compute platform
340 data centres in 34 National Grid Initiatives/EIROs
435,000 logical CPU cores

10 years of support to science
> 200 research projects
190 PB disk, 180 PB tape
1.6 M job/day
> 99.6% reliability



EGI infrastructure

EGI partners

EGI peer infrastructures

- Uniform access to heterogeneous data and compute services
 - Grid and Cloud platforms
- Federation of services from
 - Publicly funded infrastructures
 - Institutional infrastructures
 - Commercial providers (partnership with Helix Nebula)
 - free at point of delivery/pay per use





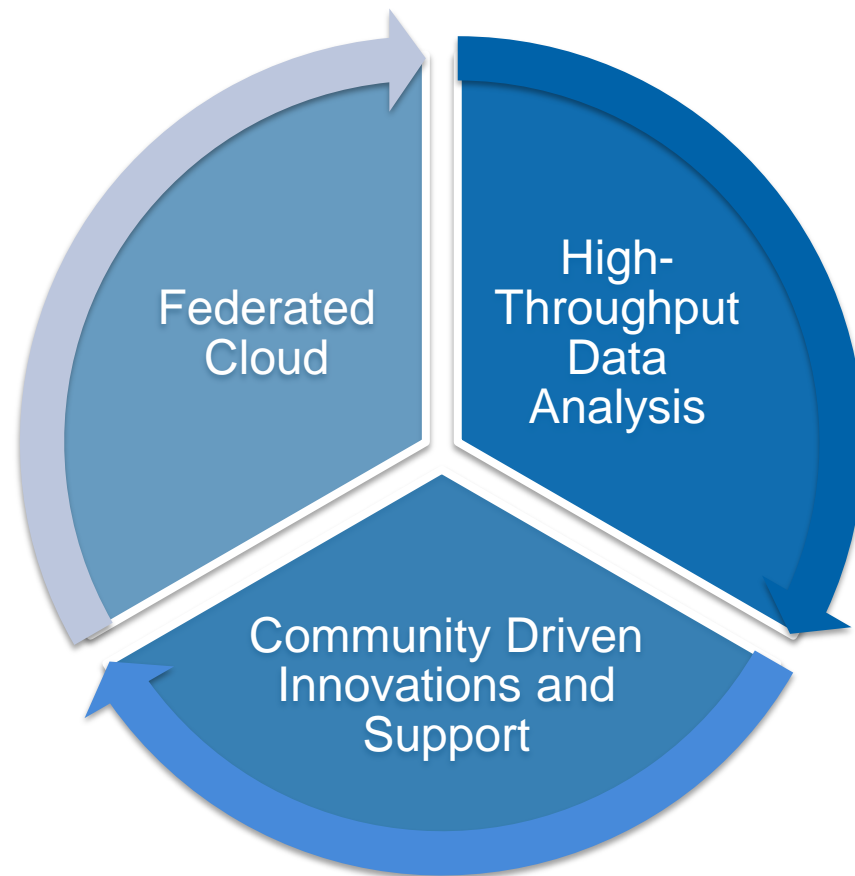
Individual
Researchers



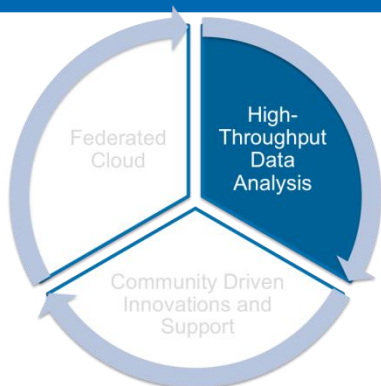
Research
Teams



Large
Research
Communities



Do you need to manage and analyse large datasets, or to execute thousands of computational tasks?



Added Value

European federation of publicly-funded clusters for High-Throughput Computing (HTC)

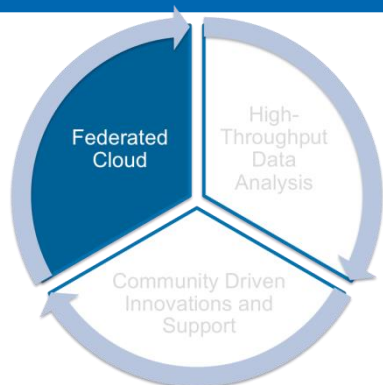
- **Grid Compute:** run large-scale computational jobs
- **Grid Storage:** store/access/retrieve files
- **Data Management:** e.g. metadata catalogue, file transfer service

Based on **open standards** and **open source software**

Integrate heterogeneous infrastructure/technologies

- **Uniform access** to distributed computing capabilities to run large-scale computational jobs processing big data and preventing single vendor lock-in
- Possibility to **federate your own resources**
- Facilitate **collaboration** across communities and borders by **sharing compute and data**

Do you need an infrastructure to deploy on-demand IT services for managing and processing your research data?



Added Value

- Uniform access, **no lock-in** and **on-demand scale out** capabilities
- Easy deployment of **own/customised services**
- Possibility to **federate** existing institutional clouds
- **Efficiency** by **co-locating big data + cloud computing**

- European federation of publicly-funded community clouds
 - **Cloud Compute**: deploy/manage virtual machines (VM)
 - **Cloud Storage**: store/access/retrieve digital objects
 - **Image Repository**: store/retrieve certified VM images

Based on **open standards** and **open source software**

Integrate heterogeneous cloud technologies

- OpenStack, OpenNebula, CloudStack,...

Integrate with commercial providers

- Within EGI or through the Helix Nebula Marketplace

**Launch into
production:
May 2014**



Do you want to discover and implement the best approach to your data-intensive compute needs?

Expert **assistance** for easy and seamless integration and access to the computing and data services

- **European Distributed Competence Centres**
- Leveraging expertise of **user communities** and **technology providers**
- Partnership with **external centres**

Support at both **national** and **EU level**

Added Value

- **Avoid duplication** of solutions
- **Leverage** expertise from the community
- Facilitate **collaboration** across communities and borders
- **User-driven innovation**



- To link research outputs from EGI into a larger open access ecosystem
- To evaluate scientific impact by connecting publications to EGI as an enabling platform



- To expand service portfolio in the area of data curation/preservation services
- To bring in expertise for data repository certification and data management planning

- Integrated large-scale **compute and data services**
 - Generate → archive → use → re-use open data
 - Custom services on cloud
- **Catch-all distributed open research data repository** (prototype)
- **Consultancy and support** embracing a portfolio of services with APARSEN and OpenAIRE
 - Compute and data management planning
 - Data repository certification
- Integrates with other e-Infrastructures to support complex workflows and enable a **single digital market** of services for research
 - GEANT, EUDAT, PRACE, Helix Nebula, ...

EGI federates ICT infrastructures and human capabilities in Europe and beyond

EGI develops solutions for research based on high-throughput computing, cloud and data services

EGI is an open platform and promotes open access to research outputs



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