

EGI Federation Strategy

2020–2024



www.egi.eu

Advanced computing for research

EGI is a federation of computing and storage resource providers united by a mission of delivering advanced computing and data analytics services for research and innovation.

Our services include high-throughput and cloud computing, storage and data management, analytics, consultancy and support, training and co-development.

EGI Federation today

The EGI Federation is an international e-infrastructure providing advanced computing and data analytics for research and innovation. For more than a decade, the federation has been delivering large-scale data analysis capabilities to thousands of researchers covering many scientific disciplines.

The EGI Federation provides technical and non-technical services, including integrated and secure distributed high-throughput and cloud computing, storage and data management services, consultancy and support, training and co-development.

The supported research is diverse, examples include finding new tools to diagnose and monitor diseases such as Alzheimer's, the development of complex simulations to model climate change or the search for the Higgs boson at the Large Hadron Collider particle accelerator at CERN.

The benefits of the EGI Federation for research communities are:

- Facilitating access to general & specialised ICT resources at a pan-European scale and beyond
- Enabling faster production of scientific results through collaboration across boundaries
- Accessing expert support teams spread across Europe
- Improving digital research skills with training or shared knowledge
- Stimulating effective use of resources in different administrative domains
- Promoting open and collaborative science and ensuring open access to shared resources and expertise
- Facilitating open innovation opportunities.

EGI in numbers

EGI Council: 21 countries + 5 international organisations + 1 institutional representative

High-Throughput Compute: > 200 providers

Total number of CPU hours (HTC): > 38.000.000.000

Cloud Compute: 22 providers

Online Storage: 580 Petabytes

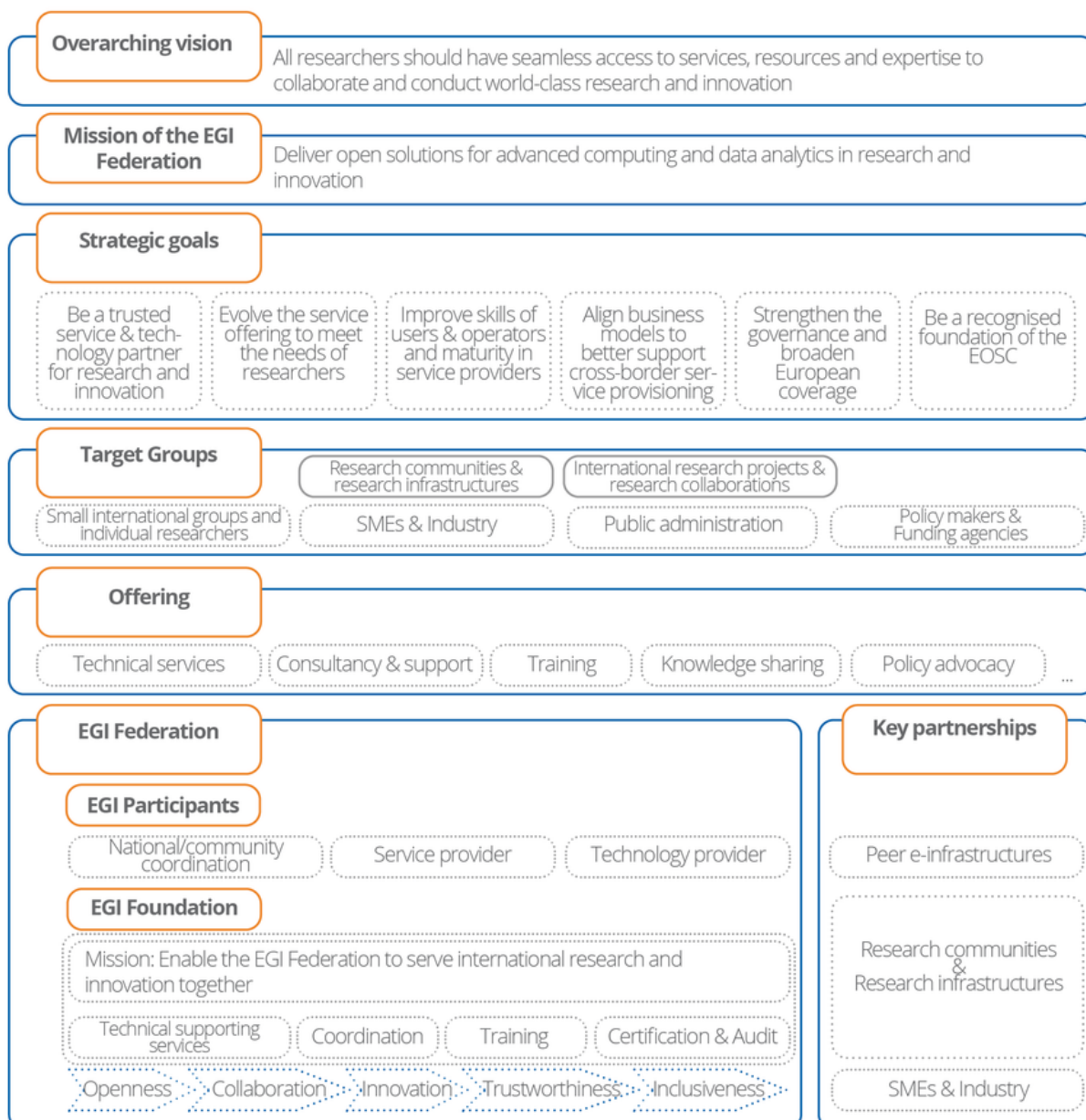
Number of virtual machines: > 2.700.000

Supported users: > 78.000

Supported scientific publications in total: > 29.000

Based on the data collected up to January 2022.

Strategy at glance





Vision

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

Mission

EGI Federation Mission

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

EGI Foundation Mission

Enable the EGI Federation to serve international research and innovation together

Target groups

01 Research communities and research infrastructures

Research communities and research infrastructures push the frontiers of science, with instrumentations, massive data and computational requirements. They have an international nature, decades-long lifetime, and a strong need for shared e-infrastructures. We provide both services and expertise for community-specific solutions that help them serve their user base. The EGI Foundation acts as the main contact point with the head organisations, while the EGI Participants engage via their local contacts.

02 International research projects and research collaborations

International research projects and research collaborations are typically represented by H2020 EC-funded projects at the European scale. While such projects have limited lifetime they cover many niche domains and regions. To this target group EGI is offering IT services and technical support to run proof-of-concept and pilot setups to tackle the scientific communities' challenges, or, as Infrastructure provider, to provision and operate the communities' e-Infrastructures needs which can be used to analyse big data analytics and support advanced research.

03 Small international groups and individual researchers

Small international groups and individual researchers are usually less experienced in advanced computing or lack resources and support. The approach is to connect them to the most suitable service providers, through a common platform and engagement framework, or involve members of the EGI Federation based on the geographical distribution of the group or individual researcher, in order to reduce the level of engagement from the EGI Foundation.

04 SMEs & industry

SMEs/Industry generally interact with the EGI community in order to stimulate the knowledge transfer activities and exploit the main achievements produced in science and scientific innovation for business and society. The EGI Federation helps them to exploit services and resources for compute-/data-intensive research and innovation, support in reusing open research data sets, tools/applications, access to training/education courses and promote their services.

05 Public administration

Public administrations enable innovation in the policy making sector, removing European fragmentation, allowing cross-support and cross-collaboration and the use of secure compute and data-intensive services. Boosted by the Green Deal, and new projects for reducing the impact of Climate Change with Emergency Management (floods, wildfire, power outages), they are creating a new and very active Community. Health Care is also a fundamental area in which regional and local Authorities play a main role. They do not always own technical capabilities to develop solutions and need the support of Providers and EOSC initiative.

05 Policy makers & Funding agencies

We provide expert advice for shaping policies and funding programs to help them implement their policy priorities. Our focus is also on informing them about trends and new potential developments.

Offering

For the identified target groups, the EGI Federation offers:

Technical services

from horizontal or thematic service providers; they cover areas such as compute, storage, data, platforms, applications, or security

Consultancy & support

to support the researchers in building platforms on top of the existing capabilities, or to build high-level services that rely on general building blocks; for larger communities, this is achieved by creating competence centres composed of experts from both the user side and the provider side

Training

to help research communities in developing the digital skills they need for modern IT and data use; EGI creates and delivers baseline and tailored training programs (e.g. online or face-to-face) and material, it also facilitates the sharing and access

Knowledge sharing

through events and online forums to share knowledge, best practices and solutions for advanced computing among an international network of users and developers

Policy advocacy

by mobilising the community to understand the main trends and needs in science and technology in order to advise policymakers and funders on the future directions to take

Strategic Goals



Be a trusted service & technology partner for research and innovation

Improve promotion and engagement with target user groups to further solidify the EGI Federation as a trusted long-term partner

Key results

- A well-defined service catalogue and related marketplace platform that seamlessly integrate in the EOSC context
- New communities are engaged from prototype to production
- New/improved services that meet demonstrated demand are introduced, especially at the infrastructure and platform layers

Evolve the service offering to meet the needs of researchers

Focus on innovation and harmonisation of services by working with user communities and with peer e-infrastructure organisations towards reliable research-enabling services

Key results

- EGI Service Portfolio Roadmap and technical roadmap updated annually
- Each service has an individual service roadmap with annual objectives for a 3-year period, summary of resources needed (including financial), usage and satisfaction statistics
- Partnerships with technology providers are defined
- New topical expert groups on key enabling technology are in place (e.g. AI/ML, PaaS for High-Throughput Computing)
- Operators and developers have an easy way to network and learn from each other
- There is a clear understanding of emerging user requirements to improve the EGI Federation service offering; Requirements are identified and regularly tracked
- EGI service offering is enriched with relevant services from collaborating e-Infrastructures and vice versa
- The EGI core services are delivered professionally

Key results

- Federated providers offer trainings for researchers to empower them in exploiting the compute and data services via the platforms; They cover areas such as data processing/analytics, data management, machine learning, AI
- Trainings for operators cover areas such as IT service management and information security; this is promoted and adopted widely for the whole EOSC community
- There is a well-documented training catalogue easy to browse and access , and a portfolio of training events regularly organised by EGI members
- A plan to increase the quality of service management, especially in the area of service delivery and operations is defined and implemented
- User communities are able to port and operate their applications on top of the EGI services
- FitSM certification scheme for organisations is available and a core set of service providers achieve FitSM organisational certification

Improve skills of users & operators and maturity in service providers

Focus on innovation and harmonisation of services by working with user communities and with peer e-infrastructure organisations towards reliable research-enabling services

Align business models to better support cross-border service provisioning

Increase the efficiency in translating the needs of services and support from the target user groups to service providers of the EGI Federation in alignment with the national and community policies and business models

Key results

- New business models are identified and implemented; they have a positive effect on available capacity and participation in service provision
- There is an efficient mechanism to aggregate demand and perform collective purchase of services
- On-demand infrastructure is provided and centrally coordinated



Strengthen the governance and broaden European coverage

Key results

- A plan to evolve the EGI governance in the context of the EOSC is defined and implemented
- EGI Council participants are more satisfied and committed to the EGI mission
- The number of EGI participants and affiliated service providers in the EGI Federation have grown
- Affiliate programme in place and the number of organisations that join it grow

Ensure that the EGI Federation governance remains effective in the changing environment and grows the relationships with current and future EGI participants

Be a recognised foundation of the EOSC

Position the services and expertise of the EGI Federation as key assets for the EOSC, especially for the Federating Core

Key results

- Selected access-enabling services from the EGI Federation are also accepted as part of the EOSC Federating Core
- Selected providers from the EGI Federation contribute "shared resources" to the EOSC Federating Core and are supported by the EGI Foundation
- A Collaboration Agreement between EOSC legal entity and EGI

Core values

All our activities and relationships are underpinned by five key core values that support the overall vision, shape culture and serve as a basis for the decision-making

Openness

communicate clearly and with integrity; ensure transparent governance structures and pursue an open infrastructure through adoption of open standards and open licenses

Collaboration

strive to provide ongoing opportunities to cooperate, communicate and partner with others in the community to advance goals and objectives

Innovation

listen to and understand the needs of stakeholders and users; look for ways to improve operational performance, processes and services; promote an attitude of continuous learning

Trustworthiness

be good stewards of resources and uphold the faith and confidence of stakeholders and research communities have placed in it

Inclusiveness

strive to be inclusive and open to all countries and research communities including those with limited resources

Strategic Partnerships



As the EGI Federation operates in a wider ecosystem of organisations serving research, a vital factor is to establish key strategic partnerships that are beneficial to achieving its mission and strategic goals.

EGI is fostering the collaboration with:

European e-Infrastructures

to strengthen the collaboration by identifying areas of complementarities and by creating synergies

National and international research infrastructures

both as consumers of services and as co-creator of solutions that can be easily reused by others

Technology providers

to ensure the availability of innovative software to be integrated into the EGI infrastructure

Commercial cloud providers

to facilitate the supported communities by helping them to combine publicly funded and commercial resources into a hybrid model

Top-level industry associations

to accelerate identifying trends and areas of collaborations

Glossary of terms

> EGI Foundation (or EGI.eu or Stichting EGI) > The legal entity whose objective is to coordinate and develop, in collaboration with its Participants, the EGI infrastructure that provides long-term distributed compute and storage resources for performing research and innovation activities.

> EGI Executive Board > Board of the EGI Foundation accountable to the EGI Council. It is composed from minimally five and maximally nine members appointed for a maximum period of two years.

> EGI Foundation Participants > Participants and Associated Participants can be NGIs, EIROs, ERICs and such other legal entities, in their own capacity or as representative of a consortium, that contribute to the objective of the EGI Foundation.

> EGI Council > Supervisory authority consisting of Participants and Associated Participants of the EGI Foundation.

> EGI Federation > EGI Foundation, EGI Foundation Participants and Associated Participants, their linked organisations (e.g. service and resource providers) represented within EGI Foundation that contribute to the objectives of the foundation.

> EGI infrastructure > The federated e-infrastructure is composed of national and intergovernmental computing and data centres from the EGI Federation providing advanced computing services for research and innovation.

> EGI community > The EGI Federation plus the served research communities, the technology providers or any other organisation linked via an agreement with the EGI Foundation and contributing to the mission of the EGI Federation.

> EGI > Can be used as a short version of “EGI Infrastructure” or “EGI Federation”.

> E-Infrastructure > An environment to share research and educational resources (e.g. network, computers, storage, software, data) so that these resources can easily be accessed and used by researchers as required.

> Research community > Diverse networks of interacting researchers working in particular scientific fields, and they can perform interdisciplinary or cross-institutional activities.

> Research infrastructure > Facilities, resources and services used by the science community to conduct research and foster innovation





EGI Federation – Service Strategy
2022-2024

Approved by the EGI Council
11-11-2021

Website
www.egi.eu