



EGI Council Participant: CERN

Participating in EGI Impact Report

CERN_

www.egi.eu

2025

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Overview

Number of supported publications	437
Number of total service users	14,058
Scientific Communities supported	10
Data Centres contributing to the Federation	1
Collaboration projects	1
HTC CPU hours delivered	2,087,641,933

About EGL

EGL is a federation of providers delivering advanced computing, data, and digital services for research and innovation, while driving collaborative development and impact across scientific communities.

The EGL Federation brings together national and international service providers to deliver the computing and data services that research teams rely on across Europe. Working as a coordinated federation, EGL enables research communities to access advanced capabilities in computing, data analytics, and artificial intelligence, while also supporting research and development that pushes the frontiers of digital innovation for science.

Through this collaborative model, EGL helps its members transform emerging technologies and approaches, such as big data, cloud computing, artificial intelligence, digital twins, and FAIR data, into reliable, environmentally and financially sustainable services for research and education. These services are designed to ensure continuity and stability beyond individual projects, enabling scientific communities

across disciplines, countries, and funding cycles to benefit from ongoing digital innovation. At the same time, the federated infrastructure and its associated R&D activities generate impact across all fields of science, from physics to the humanities, fostering new discoveries and novel research approaches.

Coordinated by the EGL Foundation, the Federation operates through a shared IT platform that connects hundreds of providers with research groups across Europe and beyond. By aligning and aggregating national capacities with European and global priorities, EGL ensures that researchers can seamlessly access digital resources and expert support. Together, EGL and its members establish a strong and lasting foundation for open, collaborative, and data-intensive science, strengthening Europe's capacity for research and innovation.

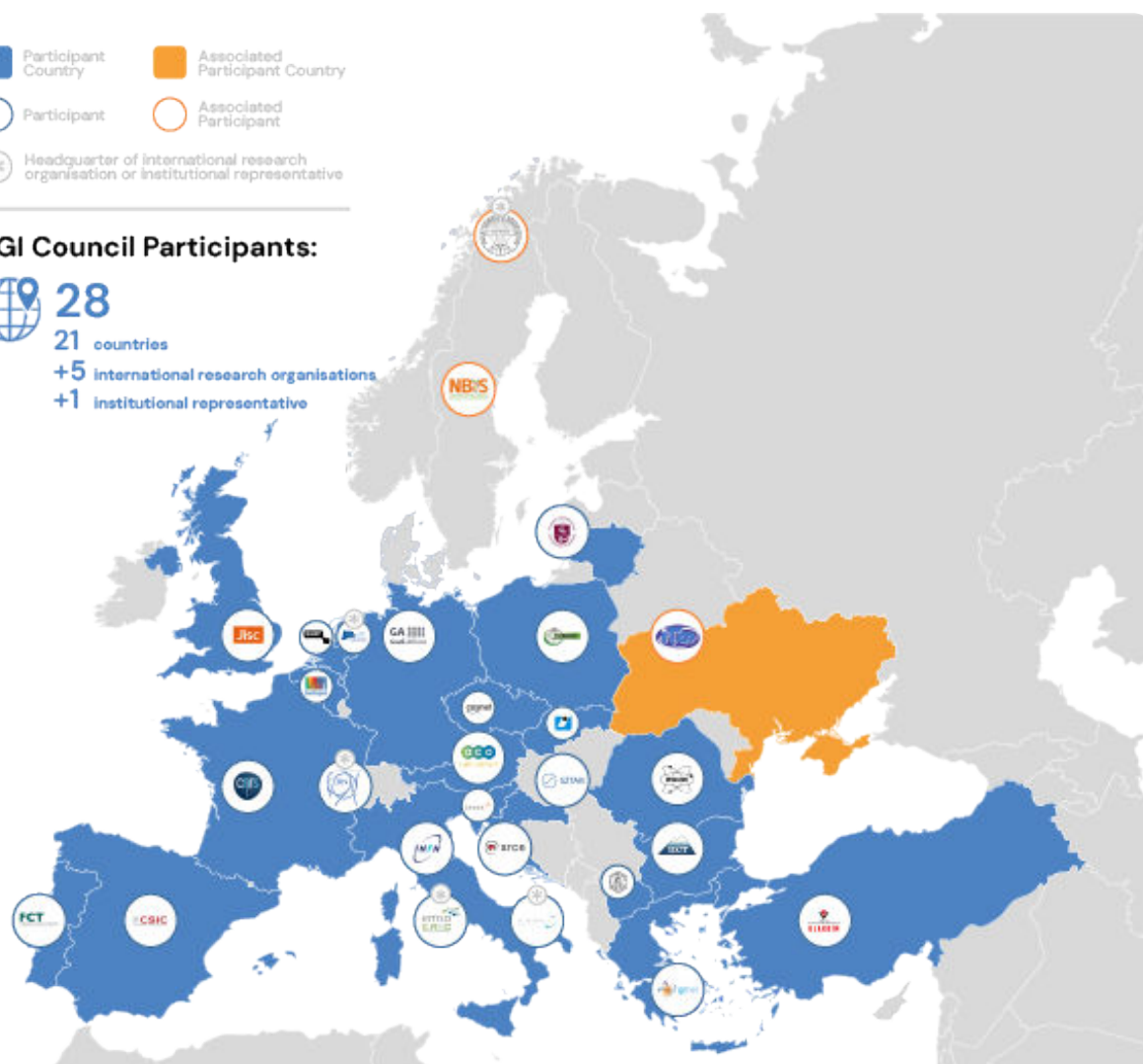




- Participant Country
- Associated Participant Country
- Participant
- Associated Participant
- Headquarter of international research organisation or institutional representative

EGI Council Participants:

 **28**
21 countries
+5 international research organisations
+1 institutional representative



Council Participant CERN_

About CERN

The European Organization for Nuclear Research, known as CERN, is a European research organisation that operates the largest particle physics laboratory in the world.

Established in 1954, CERN is based in a northwest suburb of Geneva on the Franco–Swiss border and has 23 member states. Israel is the only non-European country granted full membership. CERN is an official United Nations Observer.



Overall EGI Impact_

The EGI Federation is composed of e-infrastructure providers from national and community initiatives, forming one of the largest distributed computing infrastructures for researchers in the world, integrating about 1,243,400 CPU cores and over 1,4 Exabyte of storage space from hundreds of data centres.

In 2025, the EGI Federation served around 150,000 users (+29%). EGI users consumed 8 Billion HTC CPU hours (+8%), 43 Million Cloud CPU hours (-19%), ran over 351 Million computational jobs (-12%) and published over 2,300 open access publications.

As of the previous year, the research community with the largest number of users is Medical and Health Sciences, while the community with most extensive HTC CPU/h consumption is CMS.

From the scientific communities engaged in 2025, the one with most extensive Cloud CPU/h consumption is WeNMR.

Moreover, EGI engaged with 219 scientific communities, including SMEs and business pilots, and 41 Research Infrastructures

EGI Contribution to CERN Excellence in Science_

CERN, the European Organization for Nuclear Research, is a founding member of the EGI Federation. This report provides an overview of the activities of CERN in EGI, and the impact that was achieved thanks to this participation. The annual membership fee contributed by CERN to the EGI Foundation in 2024 was 86,250 EUR.

EGI federates hundreds of resource centres that are located at participant countries, organizations and at collaborating e-Infrastructures worldwide. This federated infrastructure supports data- and compute-intensive research across Europe and the world. In 2025, our federation has been accessed by over 150,000 users.

Research Infrastructures and multi-national research collaborations are the largest adopters of EGI Services, the main contributors of thematic portals, and operate community-specific compute, storage and data systems based on EGI federation capabilities.

The services of the EGI federation have been used by 14,058 researchers from CERN over the year. The estimated annual scientific output produced by research communities, projects and scientific collaborations from CERN and supported by the EGI Federation in 2025 is estimated to amount to over 430 peer reviewed scientific publications. The EGI Federation is currently working with almost 50 Research Infrastructures, 10 of which are supported by CERN.

CERN Research Collaborations in EGI

AMS-02 (Particle Physics)

- CERN

EGI Supported Activities and Services

The AMS-02 experiment on the International Space Station has been using compute resources from EGI for more than a decade. The services from the EGI federation that AMS-02 uses include:

- EGI HTC services from sites in Italy and CERN
- **Software Distribution Services** (UMC, CMD, operations documentation)
- **Operations Coordination** (middleware deployment campaigns, procedures, innovation of tools)
- **Security Services and Activities** (CSIRT, Software vulnerability group, international security coordination, policies, IGTF distribution)

3 SCIENTIFIC PAPER(S)
PUBLISHED IN 2025

CERN Research Collaborations in EGI

ALICE (High Energy Physics)

- CERN

EGI Supported Activities and Services

ALICE has been supported since 2012 as part of the EGI – WLCG collaboration. Federated services delivered include:

- **Software support**
- **Infrastructure and Operations Services** (infrastructure catalogue,
- **Software Distribution**

- **Services** (UMC, CMD, operations documentation)
- **Operations Coordination** (middleware deployment campaigns, procedures, innovation of tools)
- **Security Services and Activities** (CSIRT, Software vulnerability

group, international security coordination, policies, IGTF distribution)

43 SCIENTIFIC PAPER(S)
PUBLISHED IN 2025

CERN Research Collaborations in EGI

ATLAS (High Energy Physics)

- CERN Tier-0

EGI Supported Activities and Services

ATLAS has been supported since 2012 as part of the EGI – WLCG collaboration. Federated services delivered include:

- **Software support**
- **Infrastructure and Operations Services** (infrastructure

- catalogue,
- **Software Distribution Services** (UMC, CMD, operations documentation)
- **Operations Coordination** (middleware deployment campaigns, procedures, innovation of tools)

- **Security Services and Activities** (CSIRT, Software vulnerability group, international security coordination, policies, IGTF distribution)

74 SCIENTIFIC PAPER(S)
PUBLISHED IN 2025

CERN Research Collaborations in EGI

CMS (High Energy Physics)

- CERN

EGI Supported Activities and Services

CMS has been supported since 2012 as part of the EGI – WLCG collaboration. EGI Federated services delivered include:

- Software support (consultancy to users and system administrators, (software maintenance and validation)
- Infrastructure and

- operations Services (infrastructure catalogue, accounting repository and portal, helpdesk, monitoring, operations portal, AAI)
- Software distribution services (UMC, CMD, operations documentation)
- Operations coordination (middleware deployment campaigns, procedures,

- innovation of tools)
- Security services and activities (CSIRT, Software vulnerability group, international security coordination, policies, IGTF distribution)

135 SCIENTIFIC PAPER(S)
PUBLISHED IN 2025

CERN Research Collaborations in EGI

Icarus (Physical Sciences)

- CERN

EGI Supported Activities And Services

The collaboration with EGI started back in 2019. The services from the EGI federation that the experiment uses include:

- EGI HTC services from 2 EGI federated sites from IT
- Software distribution services (UMC, CMD, operations

- documentation)
- Operations coordination (middleware deployment campaigns, procedures, innovation of tools)
- Security services and activities (CSIRT, Software vulnerability group, international security coordination, policies, IGTF

0 SCIENTIFIC PAPER(S)
PUBLISHED IN 2025

Czech Research Collaborations in EGI

ILC (High Energy Physics)

- CERN

EGI Supported Activities And Services

The ILC experiment has been using compute resources from EGI partners since 2004. The services from the EGI federation that ILC experiments uses include

- EGI HTC services from 27 EGI federated sites from

- IL, DE, FR, ES, NL, PL, UK
- Software distribution services (UMC, CMD, operations documentation)
- Operations coordination (middleware deployment campaigns, procedures, innovation of tools)
- Security services and activities (CSIRT, Software vulnerability group,

international security coordination, policies, IGTF distribution)

50 SCIENTIFIC PAPER(S)
PUBLISHED IN 2025

CERN Research Collaborations in EGI

LHCb (High Energy Physics)

- CERN

EGI Supported Activities and Services

LHCb has been supported since 2012 as part of the EGI – WLCG collaboration, formally agreed in an MoU. Federating services delivered in the context of the WLCG MoU include:

- Software support
- Infrastructure and operations Services (infrastructure catalogue, accounting

- repository and portal, helpdesk, monitoring, operations portal, AAI)
- Software distribution services (UMC, CMD, operations documentation)
- Operations coordination (middleware deployment campaigns, procedures, innovation of tools)

- Security services and activities (CSIRT, Software vulnerability group, international security coordination, policies, IGTF distribution)

51 SCIENTIFIC PAPER(S)
PUBLISHED IN 2025

CERN Research Collaborations in EGI

LZ (Physical Sciences)

- CERN

EGI Supported Activities and Services

The LZ survey federates High Throughput Compute (HTC) resources from UK. The LZ compute federation benefited from the

following EGI services:

- Software support (consultancy to users and system administrators, (software maintenance and validation)
- Infrastructure and operations Services (infrastructure catalogue, accounting repository and portal, helpdesk, monitoring,

- operations portal, AAI)
- Software distribution services (UMC, CMD, operations documentation)
- Operations coordination (middleware deployment campaigns, procedures, innovation of tools)
- Security services and activities (CSIRT,

Software vulnerability group, international security coordination, policies, IGTF distribution)

6 SCIENTIFIC PAPER(S)
PUBLISHED IN 2025

CERN Research Collaborations in EGI

NA62 (High Energy Physics)

- CERN

EGI Supported Activities and Services

The NA62 experiment has been using compute resources from EGI partners since 2012. The services from the EGI federation that NA62 uses include:

- EGI HTC services from sites in the UK, IT, BE and CERN
- Software distribution services (UMC,

CMD, operations documentation)

- Operations coordination (middleware deployment campaigns, procedures, innovation of tools)
- Security services and activities (CSIRT, Software vulnerability group, international security coordination,

policies, IGTF distribution)

2 SCIENTIFIC PAPER(S)
PUBLISHED IN 2025

CERN Research Collaborations in EGI

Solid Experiment (High Energy Physics)

- CERN

EGI Supported Activities and Services

The collaboration with EGI started back in 2017. The services from the EGI federation that the experiment uses include:

- EGI HTC services from 2 EGI federated sites from BE and UK
- Software distribution services (UMC, CMD, operations

documentation)

- Operations coordination (middleware deployment campaigns, procedures, innovation of tools)
- Security services and activities (CSIRT, Software vulnerability group, international security coordination,

policies, IGTF distribution)

0 SCIENTIFIC PAPER(S)
PUBLISHED IN 2025



Participated Projects

In the reference period, the EGI Foundation was leading seven Horizon Europe Projects, two of which started in 2025:

- iMagine (September 2022–December 2025)
- interTwin (September 2022–August 2025)
- ENVRI-Hub NEXT (February 2024–January 2027)
- EOSC Beyond (April 2024–March 2027)
- EOSC Data Commons (April 2025–March 2028)
- RI-SCALE (March 2025–February 2028)

- SPECTRUM (January 2024–June 2026)

Furthermore, the EGI Federation was involved in 6 additional projects, increasing the innovation potential of its participants.

The EGI Federation participates in Horizon 2020 and Horizon Europe projects together with Czech institutions to facilitate the uptake and use of e-infrastructure services for science. A summary of these projects, the involved institutes and the scope of the collaboration is provided in the next table.



interTwin



Project Title



Scope of Collaboration

EGI advances the development of innovative approaches for communication, dissemination, and exploitation management. It contributes technical expertise to the definition of the project's architecture and guidance

framework, supports the harmonisation of trust and interoperability policies, and participates in the validation process. EGI also contributes to the preparation of the Compendium and to formulating recommendations that inform the project's future directions..

Participating beneficiaries from the country

- CERN

Infrastructure Contributions

The EGI Federation offers two complementary compute capabilities: the High-Throughput Compute (HTC) federation and the Cloud federation. 1 data centre contribute to these federations:

HTC Federation:

- CERN-PROD

The data centres provided 1 service endpoint and delivered 2,087,641,933 HTC CPUhours in total to EGI communities over the year.

With the help of the EGI Security Vulnerability Group, the CERN site avoided 49 critical vulnerabilities in foundational software systems during the year.

The most active international user groups of the country compute resources were:

- CMS 34.16%
- ALICE: 32.38%
- ATLAS: 20.91%
- LHCb 12.55%

Methodology

Data for this impact report has been collected from the following sources.

Users

EGI uses the following methodology to capture the number of EGI users who rely on EGI services

- EGI serves users in the form of 'communities', called 'Virtual Organisations' (VO in short). A VO's members can range from one to tens of thousands. Members of a VO benefit from and use EGI services in different ways (e.g., by using Services for Federation or Services for Research).
- EGI establishes knowledge about its VOs as part of the user community support lifecycle; therefore, baseline information about VOs is collected through the Customer Relationship Management process (CRM).

At the end of 2025, there were 196 VOs in EGI. EGI Virtual Organisations (VOs) can rely on different technical and non-technical mechanisms to manage

their own members. Depending on their choice, the EGI Federation coordinator (EGI Foundation) has to follow different, corresponding approaches to know the number of members in a given VO, and to obtain additional information about these members (e.g. their 'country'). The EGI Foundation uses the following mechanisms to obtain information about the VO users:

- Obtain user number statistics from the EGI Operations Portal for VOs, where the members register personally in a 'VO membership management' system that is either operated by EGI or can be accessed by EGI.
- Obtain user number statistics from Community VRE REST APIs for VOs that operate Virtual Research Environments (VREs) on top of EGI resources. Those VREs implement a specific API to report users (e.g., WeNMR, Virtual Imaging Platform (VIP), NBIS).
- Obtain user number statistics from interviews with VO coordinators for VOs coordinated by one person.

Publications

Publications are collected from each community's public repository, if existing. Additional details are checked with the VO coordinators during the interviews to complement this information. EGI also consults OpenAIRE services to countercheck the data. You can check the list of repositories for each VO here (requires login): <https://operations-portal.egi.eu/vo/#collapseVoListOther>.

Institutional members supporting research communities

EGI relies on the information on each community's website to list institutions supporting research communities at the national level. Additionally, EGI appreciates the feedback from its national representatives to refine and improve those lists.



EGI Membership Impact Report

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