



EGI Council Participant: EISCAT

Participating in EGI Impact Report: EISCAT

2024

egi.eu

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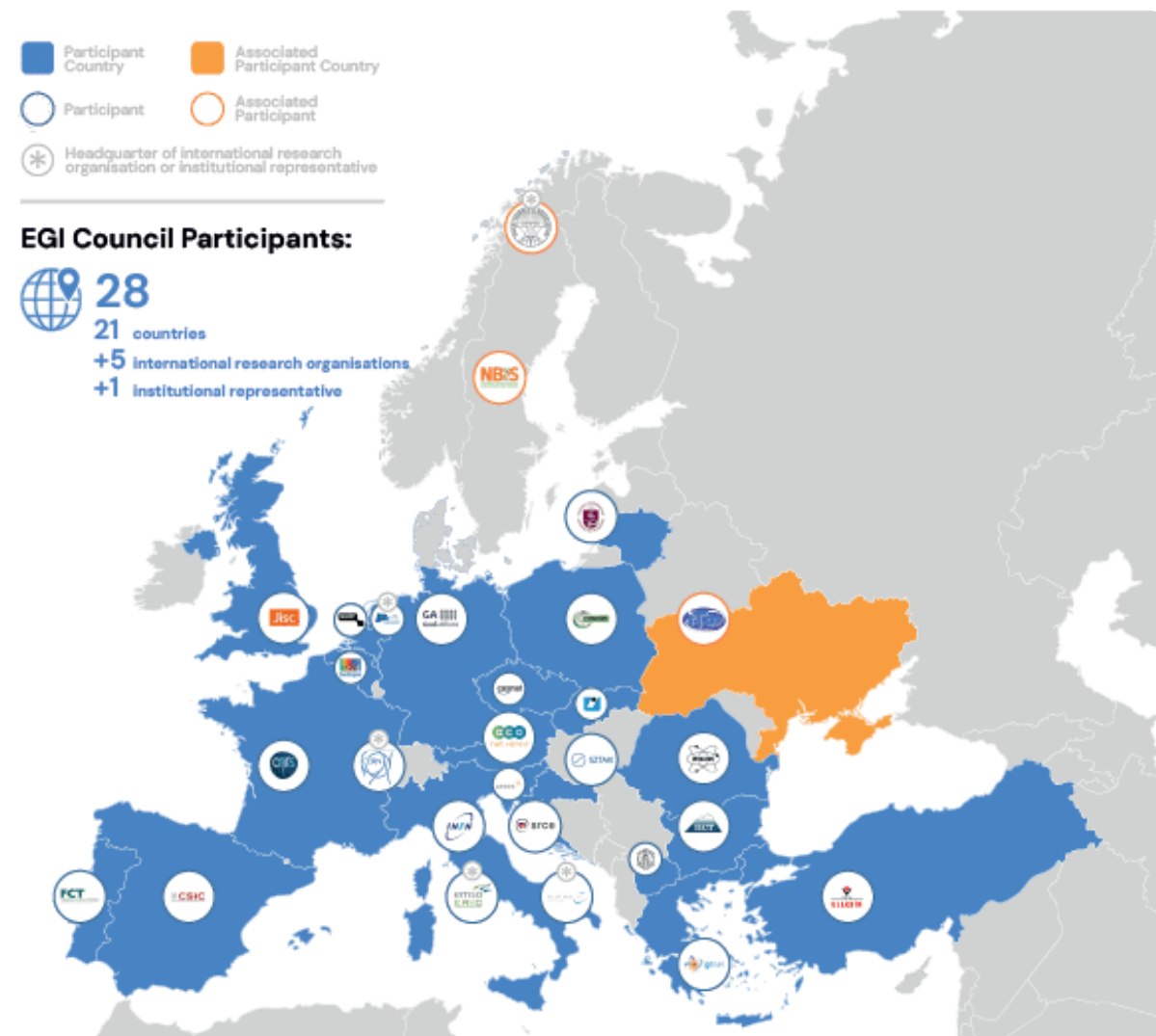
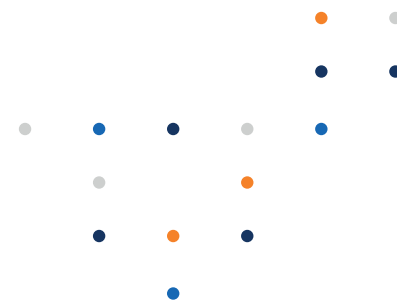
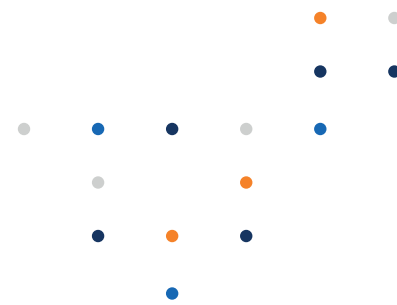
About EGI

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

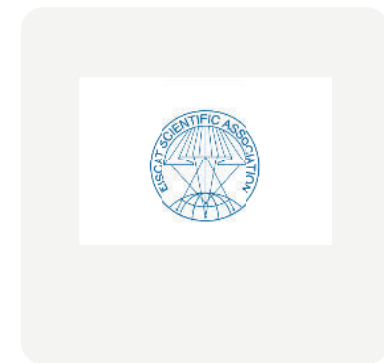
The EGI Federation believes that all researchers should have seamless access to services, resources and expertise to collaborate and conduct world-class research and innovation. The EGI Federation is coordinated by EGI Foundation, an organisation with headquarters in Amsterdam. The Foundation offers a service federation and management platform, enabling the data centres to harmonise and integrate their services by connecting to a common hub. Moreover, it engages with international research communities using these services in order to understand and satisfy their demands for advanced computing for research.

The mission of EGI is pursued by coordinating and provisioning an international federated infrastructure that pools together service providers from both the public and private sectors in Europe to develop, integrate and deliver digital services for compute and data-intensive research and innovation. As an open initiative with a global outlook, the EGI Federation also connects service providers beyond Europe, following the collaboration needs of the served communities.

The latest Annual Report provides an extensive overview of the results that have been achieved through our collaborative efforts in 2023.



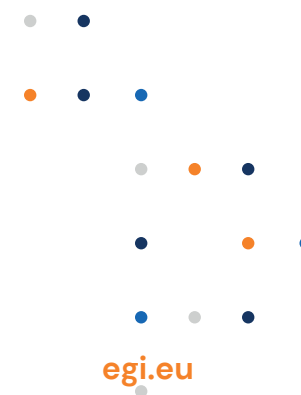
Approved EGI Council map from 2024



About EISCAT

EISCAT Scientific Association is a non-profit scientific organisation that operate four radar antenna sites to carry out research mainly on the ionosphere and the upper atmosphere of the Earth.

The EISCAT radars are all located above the Arctic Circle and all sites work together, giving scientists an unique research opportunity. The radars have been used for different types of studies and different phenomena, for example Space Weather, Space Debris and the Aurora.





Overall EGI impact

EISCAT contributes to the Federation's mission to deliver open solutions for advanced computing in research and innovation, coordinating and provisioning an international federated infrastructure that pools together service providers from both the public and private sector in Europe to develop, integrate and deliver digital services for compute and data-intensive research and innovation. In particular EISCAT contributes to facilitating access to general & specialised ICT resources at pan-European scale and to making expert support teams across Europe accessible. The annual membership fee contributed by EISCAT to the EGI Foundation in 2024 was 5,000 EUR.

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 2024, the EGI Federation served around 116,000 users (+23%). EGI users consumed 7,4 Billion HTC CPU hours (+5.7%), 62,7 Million Cloud CPU hours

(-23,5%), ran over 402 M computational jobs (+8%) and published over 2,560 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 2024, the one with most extensive Cloud CPU/h consumption is WeNMR.

Moreover, EGI engaged with a total of 249 scientific communities; 11 SMEs and business pilots, and 2 additional Research Infrastructure included in the ESFRI Roadmap, raising the total of number of ESFRI partners/users of EGI to 25.



EGI's contribution to EISCAT excellence in science

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 2024, we estimate that 128 users used the services provided by the EGI Federation.

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 estimated annual scientific output in 2024 produced by research communities, projects and scientific collaborations supported by the EGI Federation is of 45 peer reviewed scientific publications.



EISCAT research collaborations in EGI

EISCAT (Incoherent Scatter Radar)

- National Instruments Belgium Nv
- Rutherford Appleton Laboratory,
- British Antarctic Survey

EGI supported activities and services

EISCAT_3D has been supported through competence centre activities in the EGI-Engage and EOSC-hub projects. Since 2021 the EISCAT Association is member of the EGI Council. Since 2018 the EISCAT_3D experiment is using the following services from EGI:

- EGI Workload Manager
- EGI High Throughput Compute
- Technical support
- Software integration and piloting

Number of scientific papers published in 2024

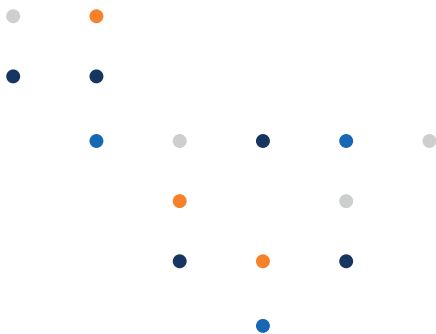
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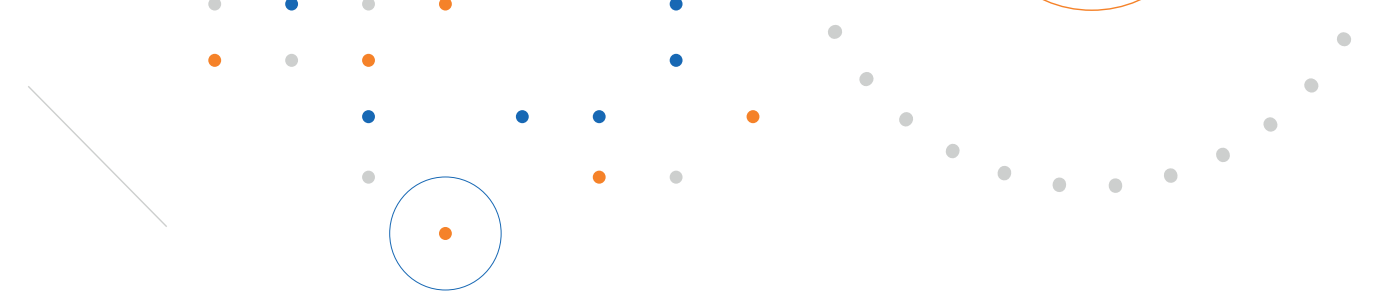
Services from EGI and Providers

EGI and EISCAT stipulated an SLA (Service Level Agreement) in 2021. Since then EISCAT benefits from the following services:

- EGI Workload Manager
- EGI Cloud Compute
- EGI Online Storage
- EGI Check-in and Perun

During 2023, the EISCAT community consumed 527,617 cloud compute CPU-hours through EGI: 333,117 from the CSTCloud site (China), and 194,500 from TUBITAK-ULAKBIM site (Turkey).





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 2024, there were 135 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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EGI Foundation



EGI

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