



EGI Council Participant: VU

Participating in EGI Impact Report: Lithuania

2024

egi.eu

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64 service users

In 2024, 64 researchers from Lithuanian institutions used the services provided by the EGI Federation



1,067 publications

The research communities, projects and scientific collaborations from Lithuania supported by the EGI led to 1,067 peer-reviewed scientific publications

4 Supported communities

In 2024, the Lithuanian infrastructure supported 4 research communities in the following disciplines: Linguistics, Health and Medicine, Physics



Country overview

Number of supported publications	1,067
Number of users	64
Scientific Communities supported	4

About EGI

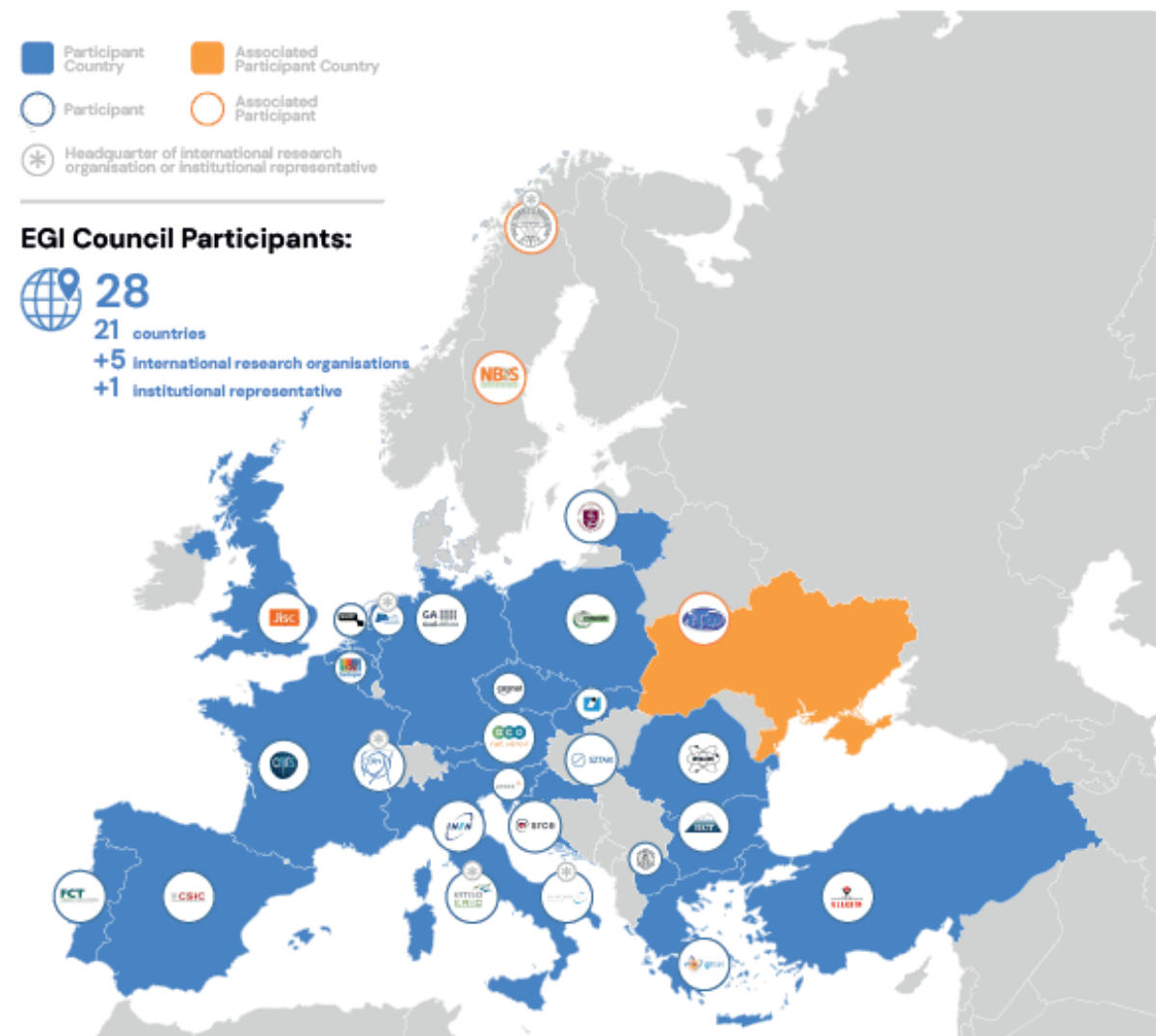
EGI is the federation of computing and storage resource providers united by a mission of delivering advanced computing and data analytics services for research and innovation.

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.

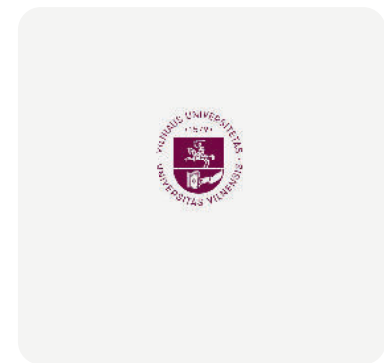
The mission of EGI is pursued by coordinating and provisioning an international federated infrastructure that pools together service providers from both the public and private sectors in Europe to develop, integrate and deliver digital services for compute and data-intensive research and innovation. 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 2024.





Approved EGI Council map from 2024



About VU

VU is the reference provider for the Lithuanian academic community, with HPC resources amounting to 0.3 PFlops, that are being procured and set up by the end of 2020 across 3 different institutes of VU, including the mathematics department, the informatics department and the physics department. VU is also participating to EuroCC and Lithuania is a funding organization of EuroHPC. VU is working towards building a consortium to represent the ‘e-infrastructure of the Republic of Lithuania’.



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 2023, the EGI Federation served around 95,000 users (+12%) from over 260 research communities. EGI users consumed 7 Billion HTC CPU hours (-1.04%), 12 Million Cloud CPU hours +17%), ran over 372 M computational jobs (+13.4%) and published over 2,900 open access publications.

As of the previous year, the research community with the largest number of users is Medical and Health Sciences (+43% annual increase in 2023), while the community with most extensive HTC CPU/h consumption is WLCG.

From the scientific communities engaged in 2023, the one with most extensive Cloud CPU/h consumption is Pangeo (+2959% annual increase in 2023).

Moreover, EGI engaged with a total of 265 scientific communities (10 new communities); 19 SMEs and business pilots, and 1 additional Research Infrastructure included in the ESFRI Roadmap, raising the total of number of ESFRI partners/users of EGI to 23.



EGI's contribution to Lithuanian excellence in science

VU coordinates the Lithuanian participation to the EGI Federation. VU promotes the building and operation of a multidisciplinary national Distributed Computing Infrastructure open to all sciences and to developing countries in Lithuania. This report provides an overview of the activities of VU in EGI, and the impact that was achieved thanks to this participation. The annual membership fee contributed by VU to the EGI Foundation in 2024 was 15,000 EUR.

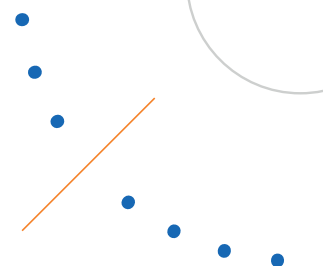
EGI federates hundreds of resource centres that are located at participant countries, organizations and at collaborating e-Infrastructures worldwide. This federated infrastructure supports data- and compute-intensive research across Europe and the world. In 2024, our federation was used by over 260 scientific communities, and has been accessed by around 116.000 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 64 researchers from Lithuania in 2024. The estimated annual scientific output in 2024 produced by research communities, projects and scientific collaborations from Lithuania and supported by the EGI Federation is estimated to amount to almost 1,067 peer-reviewed scientific publications.

The EGI Federation is currently working with over 40 Research Infrastructures, 4 of which include Lithuanian partners. These EGI-enabled research infrastructures, their Lithuanian members and their 2024 scientific output (publications) are detailed in the following pages of the report.



Lithuanian research collaborations in EGI

EGI supported activities and services

Number of scientific papers published in 2024

CLARIN (Linguistics)

- Vytautas Magnus University (CLARIN-LT)

CLARIN thematic services has been supported by EGI since 2018. CLARIN has a Service Level Agreement with EGI, using the following services:

EGI services:

- EGI Cloud (Compute + Online Storage) for hosting the Virtual Language Observatory (VLO)
- Technical support
- Service integration

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CMS (High-Energy Physics)

- Institut für Hochenergiephysik

CMS has been supported since 2012 as part of the EGI – WLCG collaboration, formally agreed in an MoU.

- Federated services delivered in the context of the WLCG MoU, including: >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)

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ELI-NP (Nuclear Physics)

- State Research Institute Centre for Physical Sciences and Technology

ELI has been working with EGI since 2016 on exploring and validating approaches for off-site computing and data management. ELI-NP setup a High Throughput Compute Service on EGI resources and works with EGI providers on:

- Refi ning the user requirements and translating these to e-infrastructure requirements, and
- Identifying and validating services from EGI that can be relevant for ELI (besides HTC and compute).
- Mobilising already existing HTC compute, cloud compute and storage resources from EGI for ELI piloting and demonstration activities

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Lithuanian research collaborations in EGI

EGI supported activities and services

Number of scientific papers published in 2024

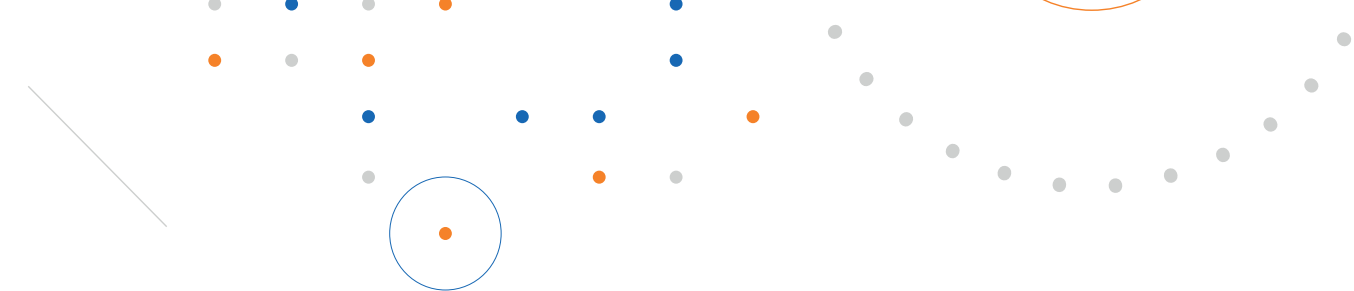
WeNMR (Structural Biology)

- LIFE SCIENCES CENTER, VILNIUS UNIVERSITY

WeNMR is supported by EGI since 2011 and has a Service Level Agreement since 2016. The EGI Services used by the community include:

- High-Throughput, Cloud + Online Storage services from 23 EGI federated sites from the Netherlands, Italy, France, Germany, UK, Poland, the Asia Pacific region, IberGrid (Spain and Portugal), Italy, the Latin America region.
- EGI Workload Manager
- Trust and identity management with Check-in
- Technical support: WeNMR benefited from continual support through dedicated support activities in various EGI flagship projects: EGI-Engage, EOSC-hub and EGI-ACE.

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Methodology

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

Users

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

- EGL 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 EGL services in different ways (e.g., by using Services for Federation or Services for Research).
- EGL 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 EGL.

EGL Virtual Organisations (VOs) can rely on different technical and non-technical mechanisms to manage their own members. Depending on their choice, the EGL Federation coordinator (EGL 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 EGL Foundation uses the following mechanisms to obtain information about the VO users:

- Obtain user number statistics from the EGL Operations Portal for VOs, where the members register personally in a 'VO membership management' system that is either operated by EGL or can be accessed by EGL.
- Obtain user number statistics from Community VRE REST APIs for VOs that operate Virtual Research Environments (VREs) on top of EGL 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. EGL 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

EGL relies on the information on each community's website to list institutions supporting research communities at the national level. Additionally, EGL 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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