



EGI Council Participant: IISAS

Participating in EGI Impact Report: Slovakia

2024

egi.eu



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2024

70 service users

In 2024, 70 researchers from Slovak institutions used the services provided by the EGI Federation



1,248 publications

The research communities, projects and scientific collaborations from Slovakia supported by the EGI led to 1,248 peer-reviewed scientific publications

6 Supported communities

In 2024, the Slovak infrastructure supported 5 research communities in the following disciplines: Climate Research, Health and Medicine, Physics



Projects

Slovak partners participate in 4 collaboration projects.

Compute Delivery

In 2024, the infrastructure providers from Slovakia federated in EGI delivered 1,904,061 HTC CPU Hours and 15,666,072 Cloud CPU Hours.



Country overview

Number of supported publications 1,248

Number of total service users 70

Scientific Communities supported 6

Data Centres contributing to the Federation 4

Collaboration projects 4

Cloud CPU hours delivered 1,904,061

HTC CPU hours delivered 15,666,072

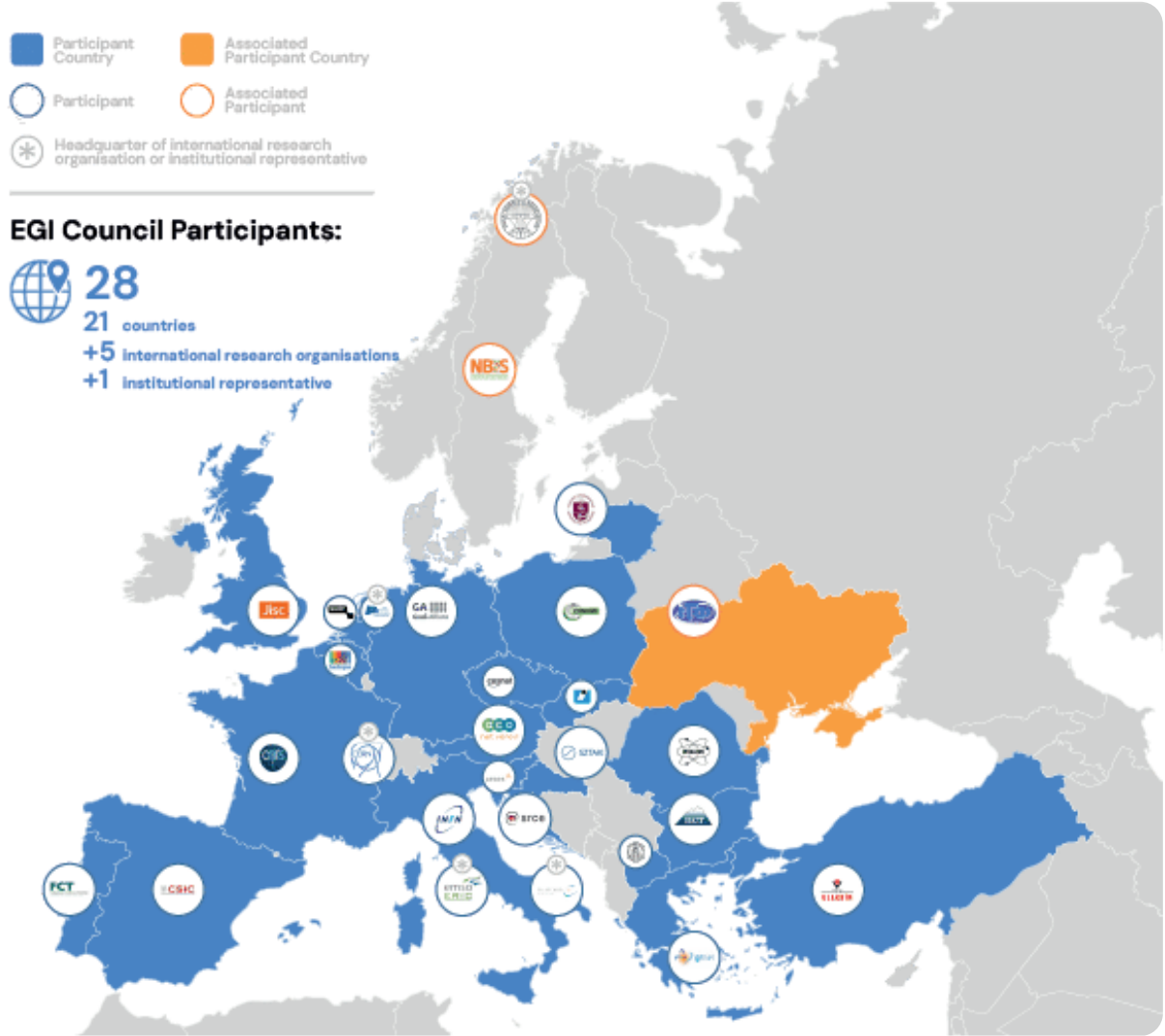
About EGI

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 IISAS

The Institute of Informatics carries out excellent research in accordance with the current trends in Applied Informatics, Cybernetics and Microelectronics. The research is conducted by national and international cooperation, especially within the European research area for the long period of FP5, FP6 and FP7 programs. The focus of our Institute is to apply the research results into practice. The Institute has been for a long term involved in building a strategic pan-European infrastructure for High Performance Computing.

The aim of the research at the Institute of Informatics of the Slovak Academy of Science is to contribute to the acquisition of new knowledge and the development of science within the scope of activities of the Institute in order to improve the quality of life by bringing scientific solutions required by the economic and social practice.

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 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 contribution to Slovakia excellence in science

IISAS coordinates the Slovak participation to the EGI Federation, representing the SlovakGrid (National grid initiative for Slovakia). SlovakGrid promotes the building and operation of a multidisciplinary national Distributed Computing Infrastructure open to all sciences and to developing countries in Slovakia. This report provides an overview of the activities of IISAS in EGI, and the impact that was achieved thanks to this participation. The annual membership fee contributed by IISAS to the EGI Foundation in 2024 was 25,000 EUR.

EGI federates hundreds of resource centres that are IEGI 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 70 researchers from Slovakia in 2024. The estimated annual scientific output in 2024 produced by research communities, projects and scientific collaborations from Slovakia and supported by the EGI Federation is estimated to amount to 1,248 peer reviewed scientific publications. The EGI Federation is currently working with over 40 Research Infrastructures, 7 of which include Slovak partners. These EGI-enabled research infrastructures, their Slovak members and their 2024 scientific output (publications) are detailed in the following pages of the report.

Slovak research collaborations in EGI

ALICE (High-Energy Physics)

- Comenius University
- P.J. Safarik University
- Slovak Academy of Sciences
- Technical Univ. of Kosice

EGI supported activities and services

ALICE 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)

Number of scientific papers published in 2024

47

ATLAS (High-Energy Physics)

- Comenius University
- Slovak Academy of Sciences

ATLAS 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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Slovak research collaborations in EGI

EGI supported activities and services

Number of scientific papers published in 2024

INSTRUCT (Structural Biology)

- Institute of Chemistry, Slovak Academy of Sciences

The WeNMR structural biology community is supported by EGI since 2011 and have an Service Level Agreement since 2016. WeNMR is part of INSTRUCT and operates online Virtual Research Environments on top of the EGI services. The EGI Services used by the community include:

- High-Throughput, Cloud + Online Storage services from 23 EGI federated data centres from the Netherlands, Italy, France, Belgium, 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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JUNO (Neutrino Observatory)

- Comenius University

The JUNO experiment has been using compute resources from EGI partners for more than a decade. The services from the EGI federation that JUNO uses include:

- EGI HTC services from 4 EGI federated data centres from France, Italy, Russia and China.
- 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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Slovak research collaborations in EGI

EGI supported activities and services

Number of scientific papers published in 2024

NA62 (High-Energy Physics)

- Comenius University

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, Italy, Belgium 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)

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WeNMR (Structural Biology)

- Comenius 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, Slovakia, 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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Service Level Agreements

During 2024, IISAS-FedCloud supported 4 Service Level Agreements for international scientific communities via EGI, delivering Cloud Computing and Online Storage services.

Community Engagement

During 2024, 1 participant from Slovakia joined the EGI2024 conference and delivered 1 talk in it. Moreover, one speaker from a Slovak institution delivered the webinar Managing Secrets in the EGI Infrastructure with EGI Secrets Store (03/07/2025)

Participated projects

The EGI Foundation leads five Horizon Europe Projects, three of which started in 2024:

- iImagine (September 2022–December 2025)
- interTwin (September 2022–August 2025)
- ENVRI-Hub NEXT (February 2024–January 2027)
- EOSC Beyond (April 2024–March 2027)
- SPECTRUM (January 2024–June 2026)

Furthermore, the EGI Federation was involved in 3 additional projects, increasing the innovation potential of its participants.

The EGI Federation participates in Horizon 2020 and Horizon Europe projects together with Austrian 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



ENVRI-Hub
NEXT


eosc | BEYOND



Project title

Scope of collaboration

Participating beneficiaries from the country

	<p>EGI is contributing to the architectural design and implementation of open distributed software to ensure that AI4Europe evolves as a distributed ecosystem. EGI is also providing its expertise on physical resources, usability, development of systems, distributed systems and new technologies to develop mechanisms for the AI tools to deploy/make use of private/public Cloud and HPC resources.</p>	<ul style="list-style-type: none"> Kempelen Institute of Intelligent Technologies (KInIT)
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	<p>In the project, EGI focuses on the development of new functionality to bring support for new computing and storage systems and to deliver meta scheduling of computing jobs in a distributed infrastructure delivered by EOSC providers and beyond. EGI also leads the task for the development of a sustainability model to maximize the project and collaborates in the activities to integrate EuroScienceGateway in EOSC.</p>	<ul style="list-style-type: none"> IISAS Ústav informatiky SAV, v. v. i.
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Infrastructure contributions

The EGI Federation offers two complementary compute capabilities: the High-Throughput Compute (HTC) federation and the Cloud federation. 4 Slovak data centres contribute to these federations:

HTC Federation:

- FMPH-UNIBA (Faculty of Mathematics, Physics and Informatics, Comenius University, Bratislava)
- IEPSAS-Kosice (Institute of Experimental Physics, Slovak Academy of Sciences, Kosice)
- IISAS-Bratislava (Institute of Informatics, Slovak Academy of Sciences, Bratislava)

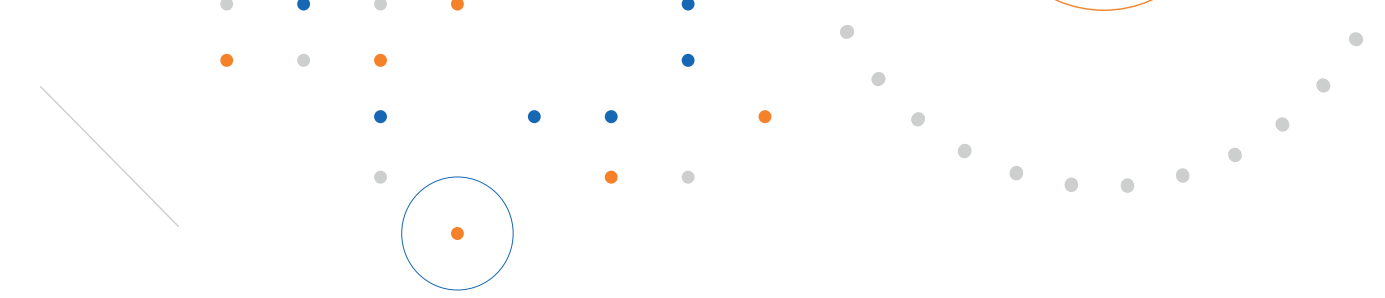
Cloud Federation:

- IISAS-FedCloud (Institute of Informatics, Slovak Academy of Sciences, Bratislava)

The data centres provided 4 service endpoints and delivered 15,666,072 HTC CPUhours and 1,904,061 Cloud CPUhours to EGI communities in 2024. The data centres responded to 41 support tickets through the EGI Helpdesk.

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

- ATLAS 62.05%
- ALICE 37.94%



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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