



EGI Council Participant: ARNES

Participating in EGI Impact Report

Slovenia_

www.egi.eu

2025

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**EGI Contribution
to the Country
Excellence in
Science**

Infographic_

Slovenia_



Country Overview_

Number of supported publications	1,522
Number of total service users	160
Scientific Communities supported	11
Data Centres contributing to the Federation	2
Collaboration projects	4
Total HTC CPU hours delivered	56,226,639

About EGI

EGI 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 EGI 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, EGI 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, EGI 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

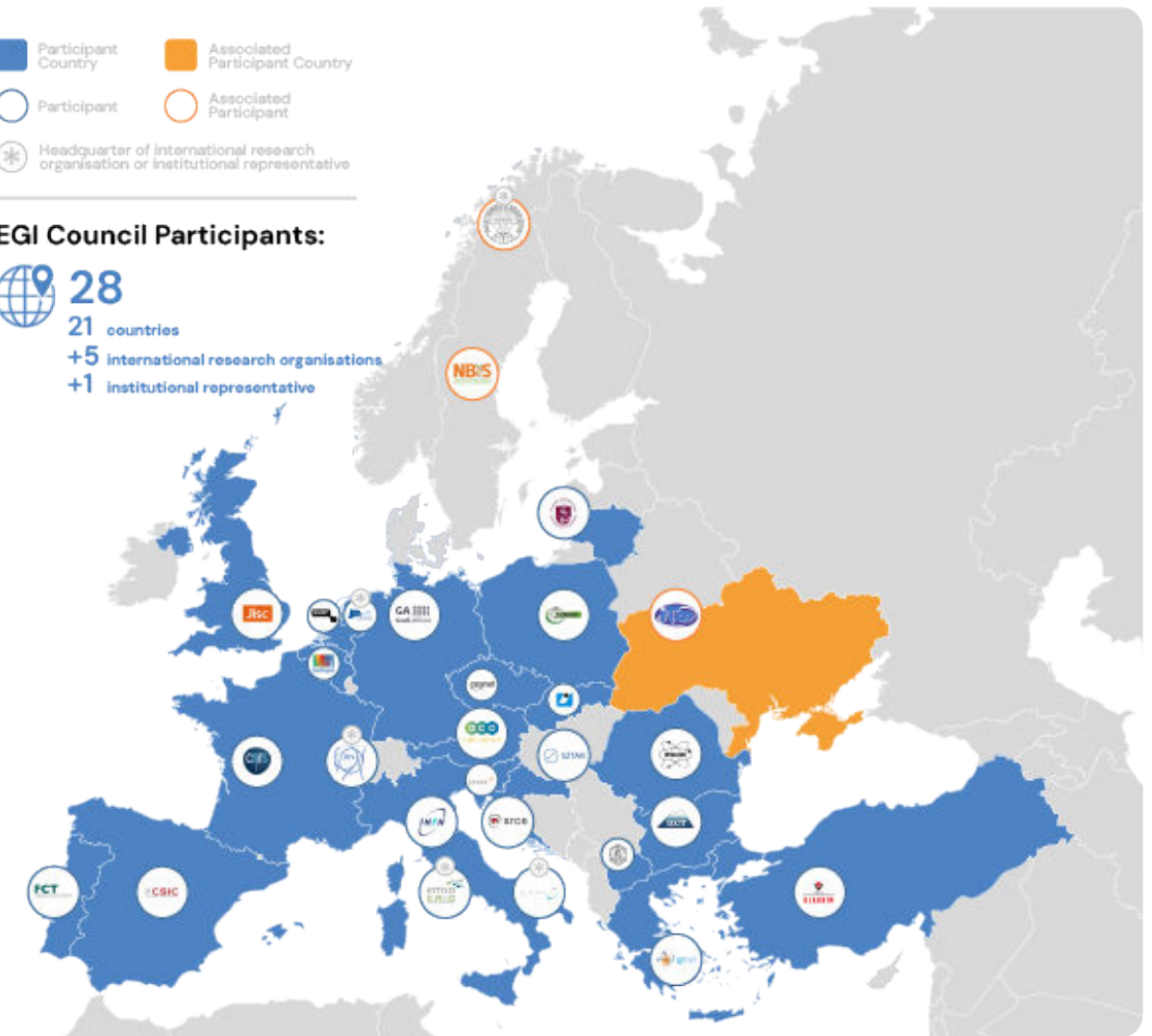
across disciplines, countries, and funding cycles to benefit from ongoing digital innovation. At the same time, the federated infrastructure and its associated R&D activities generate impact across all fields of science, from physics to the humanities, fostering new discoveries and novel research approaches.

Coordinated by the EGI 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, EGI ensures that researchers can seamlessly access digital resources and expert support. Together, EGI and its members establish a strong and lasting foundation for open, collaborative, and data-intensive science, strengthening Europe's capacity for research and innovation.



EGI Council Participants:

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



Council Participant ARNES_

About ARNES

The Academic and Research Network of Slovenia (ARNES) is a public institute that provides network services to research, educational and cultural organizations, and enables them to establish connections and cooperation with each other and with related organisations abroad.

ARNES builds, maintains and manages infrastructure linking universities, institutes, research laboratories, museums, schools, databases and digital libraries. It offers users the same services as national academic networks in other countries; it cooperates with these networks in European Commission projects to test, develop and introduce new Internet protocols and services. It also provides services that are not offered by commercial organisations but which are essential to the operation of the Internet in Slovenia.

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 Excellence in Science in the Slovenia

ARNES coordinates the Slovenian participation to the EGI Federation, representing the SLING (National Supercomputing Network Consortium). SLING promotes the building and operation of a multidisciplinary national Distributed Computing Infrastructure open to all sciences and to developing countries in Slovenia. This report provides an overview of the activities of ARNES in EGI, and the impact that was achieved thanks to this participation. The annual membership fee contributed by ARNES to the EGI Foundation in 2025 was 28,750 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 160 researchers from Slovenia over the year. The estimated annual scientific output produced by research communities, projects and scientific collaborations from Slovenia and supported by the EGI Federation in 2025 is estimated to amount to over 1,522 peer reviewed scientific publications. The EGI Federation is currently working with almost 50 Research Infrastructures, 11 of which include Slovenian partners. These EGI-enabled research infrastructures, their Slovenian members and their scientific output (publications) are detailed in the following pages of the report.

Slovenian Research Collaborations in EGI

ATLAS (High Energy Physics)
• University of Ljubljana

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)

Slovenian Research Collaborations in EGI

AUGER (Astronomy)
• University of Nova Gorica
• University of Ljubljana

EGI Supported Activities and Services

The Pierre Auger Observatory has been using compute resources from EGI partners for more than a decade. The services of the EGI federation that the Auger observatory benefits from include:

- EGI HTC services from 9 EGI participant countries (CZ, DE, IT, FR, ES, NL, RO, PT, SI)
- 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)

12 SCIENTIFIC PAPER(S)
PUBLISHED IN 2025

Slovenian Research Collaborations in EGI

BELLE (High Energy Physics)
• University of Nova Gorica
• University of Ljubljana

EGI Supported Activities and Services

The BELLE experiment has been using compute resources from EGI partners since 2016. The services from the EGI federation that BELLE benefits from include:

- EGI HTC services from 9 EGI participant countries (CZ, DE, IT, FR, ES, NL, RO, PT, SI)

- 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)

56 SCIENTIFIC PAPER(S)
PUBLISHED IN 2025

Slovenian Research Collaborations in EGI

BIOMED (Life Sciences)
• University of Pola
• ZRC SAZU

EGI Supported Activities and Services

The Life Science Grid Community has been supported by EGI for more than one decade, with a Service Level Agreement in place since 2016. The EGI Services used by the community include:

- High-Throughput + Online Storage

- services
- EGI Cloud services
- EGI Workload Manager

During the Horizon 2020 Project EGI-ACE (2021–2024), the BIOMED community was one of the Data Space providers supported.

1 SCIENTIFIC PAPER(S)
PUBLISHED IN 2025

Slovenian Research Collaborations in EGI CLARIN (Linguistics) CLARIN.SI	EGI Supported Activities and Services CLARIN thematic services has been supported by EGI since 2018. CLARIN has a Service Level Agreement with EGI, using the following services: EGI Cloud (Compute + Online Storage) for hosting the Virtual Language Observatory	(VLO) - Technical support - Service integration	0 SCIENTIFIC PAPER(S) PUBLISHED IN 2025
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Slovenian Research Collaborations in EGI CTA (Astronomy) University of Nova Gorica	EGI Supported Activities and Services The CTA experiment has been using compute resources from EGI partners for more than a decade. The services from the EGI federation that CTA uses include: EGI HTC services from 9 EGI participant countries (CZ, DE, IT,	FR, ES, NL, RO, PT, SI) - 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
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Slovenian Research Collaborations in EGI ILC (High Energy Physics) University of Ljubljana	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
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Slovenian Research Collaborations in EGI LifeWatch (Biodiversity and Ecosystem Research) ZRC SAZU	EGI Supported Activities and Services The LifeWatch experiment has been using compute resources from EGI partners since 2018. The services from the EGI federation that LifeWatch uses include: - EGI Cloud services from 2 EGI federated sites from ES and PT - 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
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Slovenian Research Collaborations in EGI LSST (Astronomy) University of Nova Gorica	EGI Supported Activities and Services The LSST compute federation benefited from the following EGI services: - 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) 20 SCIENTIFIC PAPER(S) PUBLISHED IN 2025
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Slovenian Research Collaborations in EGI SeaDataNet (Oceanography) National Institute of Biology (NIB) – Marine Biology Station	EGI Supported Activities And Services Since 2021, the SeaDataNet community is represented in the EGI Council by MARIS.. The SeaDataNet community is consuming cloud compute resources through EGI from the INFN-Bari	site (Italy) since early 2022. The cloud compute delivery is secured with an EGI Service Level Agreement for SeaDataNet since November 2023	0 SCIENTIFIC PAPER(S) PUBLISHED IN 2025
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Slovenian Research Collaborations in EGI WeNMR (Structural Biology) - UL FKKT - National Institute of Chemistry - University of Ljubljana - Institute of Biochemistry and Moleculat Genetics - Jozef Stefan Institute	EGI Supported Activities and Services ThWeNMR 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 NL, IT, FR, DE, PL,	UK, the Asia Pacific region, IberGrid (Spain and Portugal), the Latin America region. - EGI Workload Manager - Trust and identity management with Check-in	10 SCIENTIFIC PAPER(S) PUBLISHED IN 2025
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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 Dutch 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.



Project Title



Scope of Collaboration

EGI contributes research and development expertise to the architectural design and implementation of open, distributed software infrastructure for AI4Europe. This ensures the platform evolves as a scalable,

interoperable ecosystem. EGI also applies its deep knowledge of physical resources, usability, distributed systems, and emerging technologies to develop deployment mechanisms for AI tools across private and public cloud and HPC resources.

Participating beneficiaries from the country

- ZRC SAZU

Project Title



Scope of Collaboration

EGI coordinates the research and implementation of federated Single Sign-On access through its EGI Check-in service, enhancing secure and interoperable authentication across the project ecosystem.

Participating beneficiaries from the country

- ZRC SAZU

Project Title



Scope of Collaboration

EGI contributes research to gap analysis, user requirements, system specifications, security frameworks, and self-sovereign identity management. It coordinates policy recommendations on distributed infrastructures, secure data exchange, and Data Spaces, while supporting dissemination activities.

Participating beneficiaries from the country

- XLAB

Project Title



Scope of Collaboration

EGI advances stakeholder engagement and alignment while leading IT security management and software vulnerability assessment for the UNCAN.eu platform's federated infrastructure. It contributes to infrastructure federation,

decentralised health research environments, and impact assessment guidelines.

beneficiaries from the country

- National Institute of Biology

Participating

Infrastructure Contributions_

The EGI Federation offers two complementary compute capabilities: the High-Throughput Compute (HTC) federation and the Cloud federation. 2 Slovenian data centres contribute to these federations:

HTC Federation:

- ARNES (Arnes, Ljubljana)
- SiGNET (Jozef Stefan Institute)

The data centres provided 2 service endpoints and delivered 56,226,639 CPUhours in total to EGI communities over the year.

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

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

- ATLAS 85.97%
- BELLE 14.03%.

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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