



EGI Council Participant: IFIN-HH

Participating in EGI Impact Report

Romania_

www.egi.eu

2025

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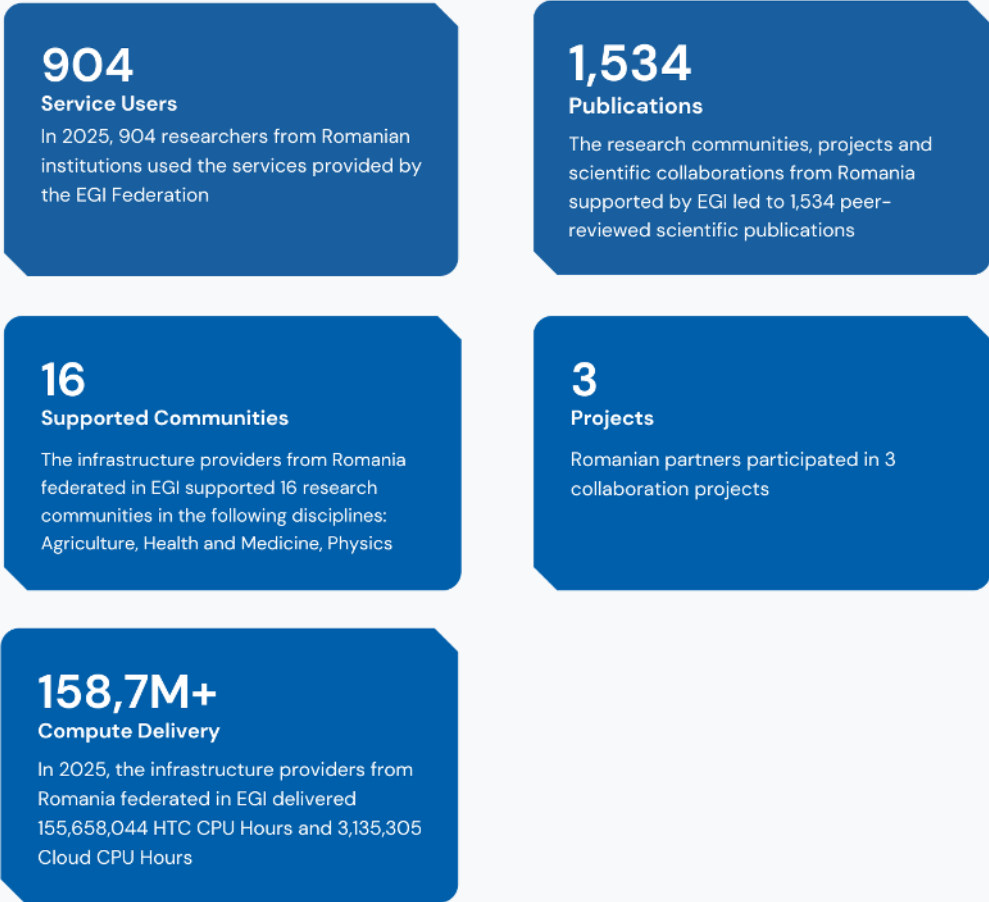
Overall EGI Impact

10

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

Infographic_

Romania_



Country Overview_

Number of supported publications	1,534
Number of total service users	904
Scientific Communities supported	16
Data Centres contributing to the Federation	9
Collaboration projects	3
Total HTC CPU hours	155,658,044
Total Cloud CPU hours	3,135,305

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

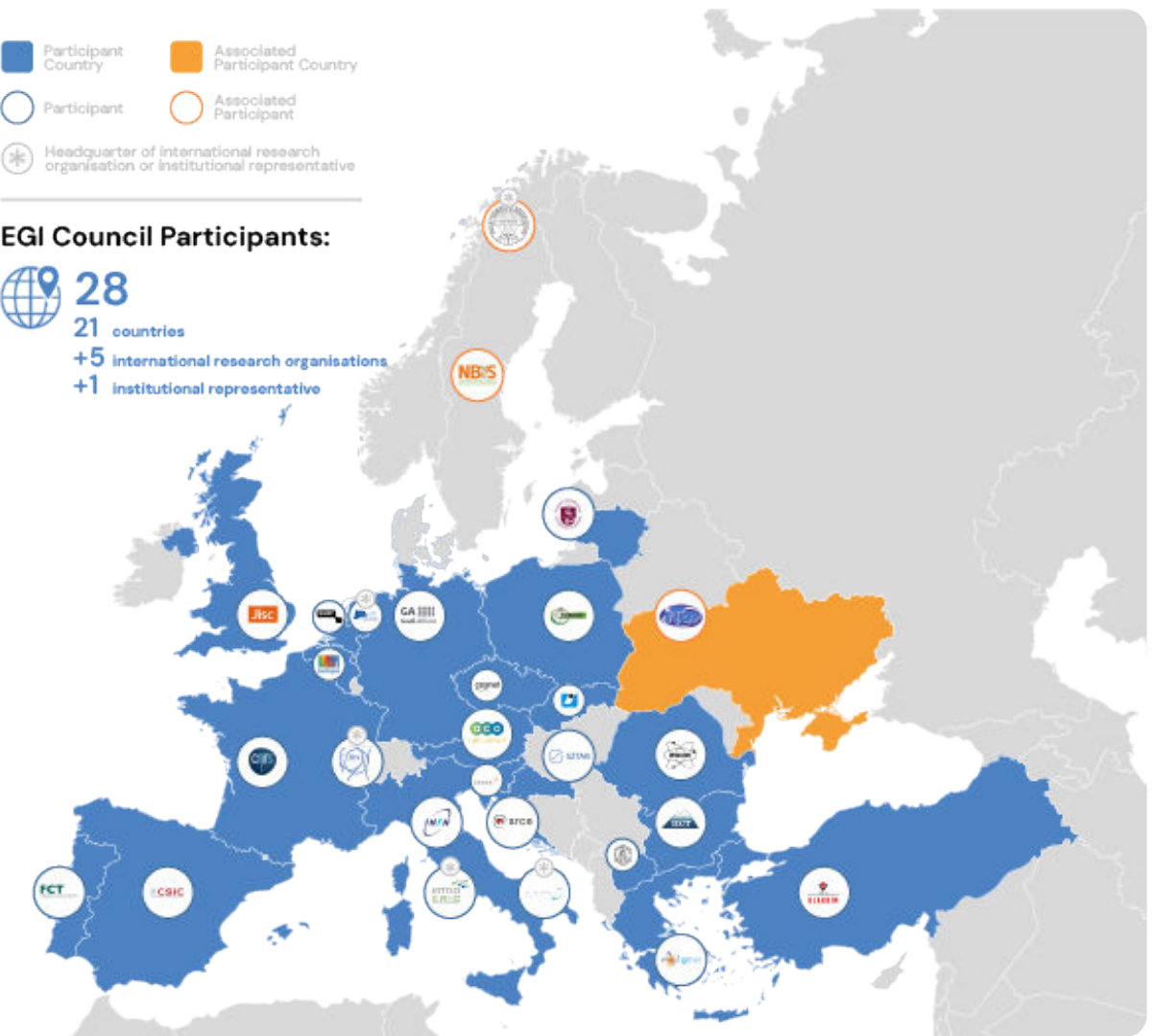
across disciplines, countries, and funding cycles to benefit from ongoing digital innovation. At the same time, the federated infrastructure and its associated R&D activities generate impact across all fields of science, from physics to the humanities, fostering new discoveries and novel research approaches.

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 IFIN-HH_

About IFIN-HH

With a contribution of almost 10% of the national scientific output, IFIN-HH is one of the most important public R&D organisations in Romania.

The institute is dedicated to the research and development in physical and natural sciences, mainly Nuclear Physics and Nuclear Engineering, and in related areas including Astrophysics and Particle Physics, Field Theory, Mathematical and Computational Physics, Atomic Physics and Physics of Condensed Matter, Life and Environmental Physics. In all these fields, IFIN-HH conducts theoretical and experimental research.

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 Romania

IFIN-HH coordinates the Romanian participation to the EGI Federation, representing the NGIRO (National grid initiative for Romania). NGIRO promotes the building and operation of a multidisciplinary national Distributed Computing Infrastructure open to all sciences and to developing countries in Romania. This report provides an overview of the activities of IFIN-HH in EGI, and the impact that was achieved thanks to this participation. The annual membership fee contributed by SURF to the EGI Foundation in 2025 was 46,000 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 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 904 researchers from Romania over the year. The estimated annual scientific output produced by research communities, projects and scientific collaborations from Romania and supported by the EGI Federation in 2025 is estimated to amount to over 1,534 peer reviewed scientific publications. The EGI Federation is currently working with almost 50 Research Infrastructures, 16 of which include Romanian partners. These EGI-enabled research infrastructures, their Romanian members and their scientific output (publications) are detailed in the following pages of the report.

Romanian Research Collaborations in EGI

ALICE (High Energy Physics)

- Institute for Space Science (ISS)
- National Institute for Physics and Nuclear Engineering
- University Politehnica of

Bucharest (UPB)

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

Romanian Research Collaborations in EGI

ATLAS (High Energy Physics)

- Transilvania University of Brasov
- Horia Hulubei National Institute of Physics and Nuclear Engineering
- National Institute for Research and Development of Isotopic and Molecular

Technologies

- Alexandru Ioan Cuza University of Iasi
- University Politehnica Bucharest, Bucharest
- West University in Timisoara

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

Romanian Research Collaborations in EGI

AUGER (Astronomy)

- Horia Hulubei National Institute for Physics and Nuclear Engineering
- Institute of Space Science
- University Politehnica of Bucharestit

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

Romanian Research Collaborations in EGI

COMPASS (Physical Sciences)

- Tomsk Polytechnic University

EGI Supported Activities and Services

COMPASS has been supported since 2017 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)

3 SCIENTIFIC PAPER(S) PUBLISHED IN 2025

Romanian Research Collaborations in EGI DUNE (Astroparticle Physics) University of Bucharest	EGI Supported Activities And Services The DUNE experiment has been using compute resources from EGI partners for more than a decade. The services from the EGI federation that DUNE uses include: EGI HTC services from 6 EGI participant countries (CH, CZ, ES, FR, NL, 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)	41 SCIENTIFIC PAPER(S) PUBLISHED IN 2025
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Romanian Research Collaborations in EGI ELI-NP (Nuclear Physics) - National Institute for Laser, Plasma & Radiation Physics (INFLPR) - National Communications Research Institute (INSCC) - National Institute of Material Physics (INFM) - National Research and Development Institute for Cryogenics and Isotopic Technologies (ICIT)	- Optoelectronica-2001 SA - Technical University of Civil Engineering - National Research and Development Institute in Electrical Engineering (ICPE-CA) - Victor Babes National Institute of Pathology - University Politehnica of Bucharest - Accent Pro 2000 - and others EGI Supported Activities And Services	- ELI works 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 - Refining 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. 90 SCIENTIFIC PAPER(S) PUBLISHED IN 2025
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Romanian Research Collaborations in EGI EMPHASIS (Agricultural Sciences) - Biological Research Center Jibou - Babes-Bolyai University Cluj-Napoca	EGI Supported Activities And Services EMPHASIS has been supported through the establishment of a Data Space in the EGI-ACE project. Since 2017 EMPHASIS using the following services from EGI: EGI Check-in	- EGI Cloud Compute - EGI Online Storage - EGI DataHub - Technical support - Software integration and piloting)	0 SCIENTIFIC PAPER(S) PUBLISHED IN 2025
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Romanian Research Collaborations in EGI EMSO (Oceanography) GeoEcoMar	EGI Supported Activities And Services The collaboration with EGI started back in 2017 when 4 cloud providers of the EGI Federation agreed to support the EMSODEV project during the design and implementation of the EMSODEV Data Portal. EMSO-ERIC set up the EMSO ERIC Data	Management Platform on the EGI providers in order to harmonise the data sets following Oceansites specifications, FAIR principles, and EOSC guidelines.	0 SCIENTIFIC PAPER(S) PUBLISHED IN 2025
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Romanian Research Collaborations in EGI ILC (High Energy Physics) National Institute of Physics and Nuclear Engineering “Horia Hulubei” (IFIN-HH)	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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Romanian Research Collaborations in EGI KM3NET (Neutrino Observatory) Institute for Space Sciences (ISS)	EGI Supported Activities and Services The Km3Net experiment has been using compute resources from EGI partners since 2013. The services from the EGI federation that Km3Net uses include: - EGI HTC services from 2 EGI federated sites from IT and PL - 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) 52 SCIENTIFIC PAPER(S) PUBLISHED IN 2025
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Romanian Research Collaborations in EGI LHCb (High Energy Physics) National Institute of Physics and Nuclear Engineering “Horia Hulubei” (IFIN-HH)	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
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Romanian Research Collaborations in EGI LZ (Physical Sciences) Institute of Space Sciences (ISS)	EGI Supported Activities and Services 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
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Romanian Research Collaborations in EGI

NA62 (High Energy Physics)

- Horia Hulubei National Institute of Physics and Nuclear Engineering

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

Romanian Research Collaborations in EGI

perla.pv (Physical Sciences)

- National Institute of Materials Physics
- Horia Hulubei National Institute for R&D in Physics and Nuclear Engineering (IFIN-HH)
- Wattrom

EGI Supported Activities and Services

PERLA-PV has been using compute resources from EGI partners since 2021. The services from the EGI federation that PERLA-PV uses include:

- EGI Cloud services from 1 EGI federated site from RO

- EGI Online Storage
- EGI AAI Check-in

4 SCIENTIFIC PAPER(S) PUBLISHED IN 2025

Romanian Research Collaborations in EGI

SeaDataNet (Oceanography)

- NIMRD National Institute for Marine Research and Development "Grigore Antipa"

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

Romanian Research Collaborations in EGI

WeNMR (Structural Biology)

- UNIVERSITY OF BUCHAREST
- INCDSB
- INSTITUTE OF BIOCHEMISTRY OF THE ROMANIAN ACADEMY
- WEST UNIVERSITY OF TIMISOARA
- ȘTEFAN CEL MARE

UNIVERSITY OF SUCEAVA

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

Service Level Agreements

During 2025, CLOUDIFIN supported 2 Service Level Agreements for international scientific communities via EGI, delivering Cloud Computing and Online Storage services.

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

- Institutul e-Austria Timisoara

Project Title



Scope of Collaboration

EGI leads communication, dissemination, engagement, and exploitation efforts (WP1), including stakeholder mapping and service catalogue promotion. It develops climate risk training modules and provides access

to training/computing infrastructure (WP3), while contributing to FAIR frameworks, AAI analysis, and access policy alignment for integrated knowledge services (WP6)

country

- INOE 2000

Participating beneficiaries from the

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.

Participating beneficiaries from the country

- ARTIFICIAL INTELLIGENCE EXPERT SRL

Infrastructure Contributions_

The EGI Federation offers two complementary compute capabilities: the High-Throughput Compute (HTC) federation and the Cloud federation. 9 Romanian data centres contribute to these federations:

HTC Federation:

- GRIDIFIN (NIPNE, National Institute for Physics and Nuclear Engineering)
- NIHAM (NUCLEAR INTERACTIONS AND HADRONIC MATTER)
- RO-03-UPB (Politehnica University of Bucharest)
- RO-07-NIPNE (NIPNE, National Institute for Physics and Nuclear Engineering)
- RO-13-ISS (Institute of Space Science)
- RO-14-ITIM (National Institute for Research and Development of Isotopic and Molecular Technologies)
- RO-16-UAIC (Alexandru Ioan Cuza University of Iasi)

Cloud Federation:

- CLOUDIFIN (NIPNE, National Institute for Physics and Nuclear Engineering)

- ITIM-Cloud

The data centres provided 2 service endpoints and delivered 155,658,044 HTC CPUhours and 3,135,305Cloud CPUhours in total to EGI communities over the year.

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

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

- ALICE 74.88%
- ATLAS 23.12%
- LHCb 2.00%

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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EGI Foundation



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