



EGI Council Participant: CYFRONET

# Participating in EGI Impact Report: Poland

# 2024

[egi.eu](https://egi.eu)



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# Infographic

# Country overview

## 698 service users

In 2024, 698 researchers from Polish institutions used the services provided by the EGI Federation



## 1,484 publications

The research communities, projects and scientific collaborations from Poland supported by the EGI led to 1,484 peer-reviewed scientific publications



## 21 Supported communities

In 2024, the Polish infrastructure supported 21 research communities in the following disciplines: Agriculture, Climate Research, Health and Medicine, Linguistics, Physics



## Projects

Polish partners participate in 17 collaboration projects.



## Compute Delivery

In 2024, the infrastructure providers from Poland federated in EGI delivered 10,589,693 HTC CPU Hours and 6,376,261 Cloud CPU Hours.



Number of supported publications 1.484

Number of total service users 698

Scientific Communities supported 21

Data Centres contributing to the Federation 6

Collaboration projects 17

Total HTC CPU hours delivered 90,819,974

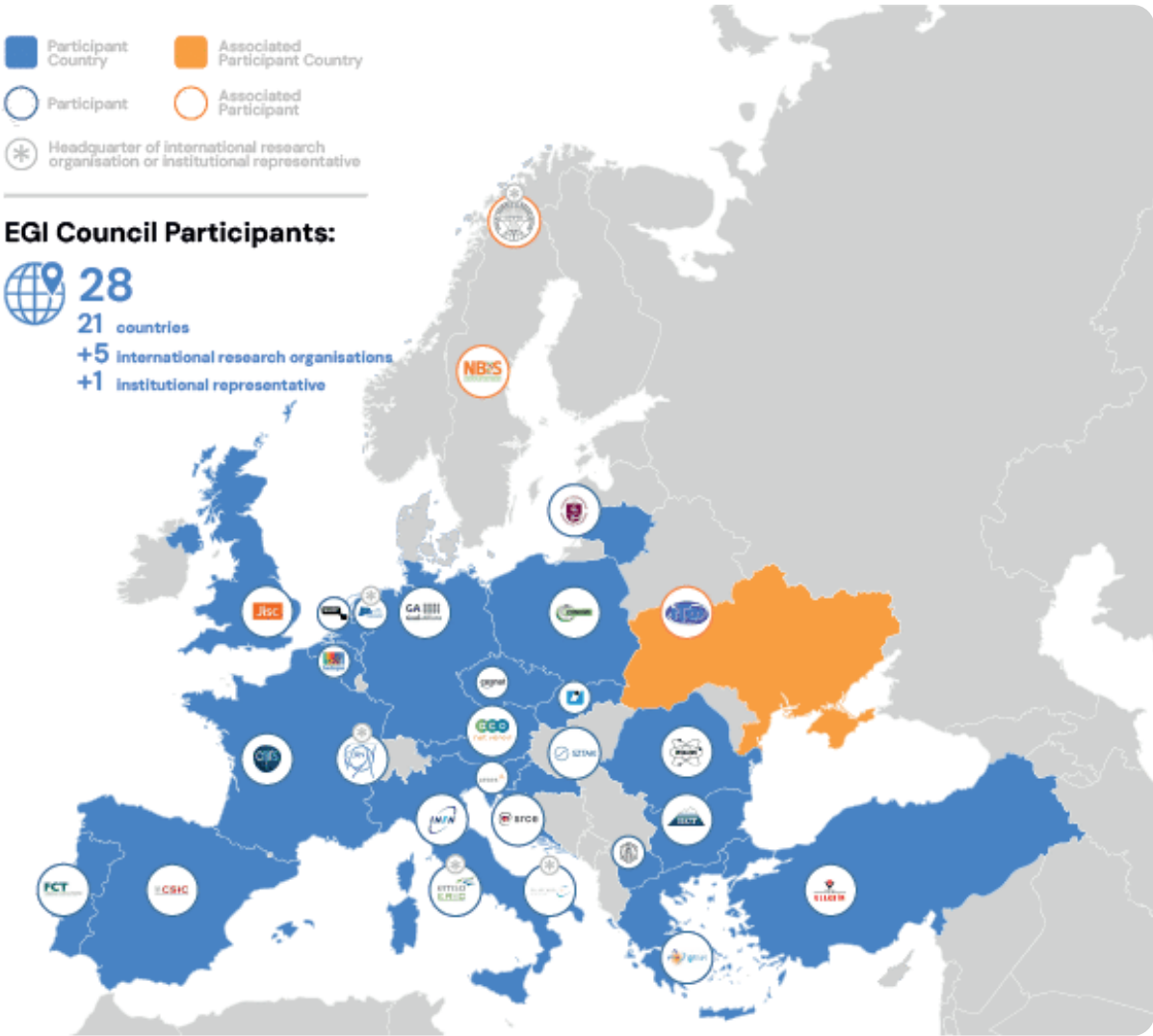
# About EGI

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 CYFRONET

The Academic Computer Centre CYFRONET AGH was established 40 years ago, in 1973. Foundation of the Centre was given by the Krakow University Rectors' College members, which in 1971 put forward a proposal to the state authorities to purchase a modern, large and multi-access computer for the Krakow scientific community and create the interuniversity computer centre.

Formally, the Centre was established on March 23, 1973 by the Minister of Science and Higher Education under the name Community Computational Centre CYFRONET KRAKOW.

Under this name the Centre operated until 1992, when it was renamed to the Academic Computer Centre CYFRONET-KRAKOW. Another name change took place in December 1998. ACK CYFRONET-KRAKOW converted to the Academic Computer Centre CYFRONET of the University of Science and Technology (ACK CYFRONET AGH). The Centre, which is organizationally and financially an autonomous unit of the AGH-UST in Krakow, is now one of the largest supercomputing and networking centers in Poland.

# 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 Poland excellence in science

CYFRONET coordinates the Polish participation to the EGI Federation, representing the PL-GRID (National grid initiative for Poland). PL-GRID promotes the building and operation of a multidisciplinary national Distributed Computing Infrastructure open to all sciences and to developing countries in Poland. This report provides an overview of the activities of PL-GRID in EGI, and the impact that was achieved thanks to this participation. The annual membership fee contributed by PL-GRID to the EGI Foundation in 2024 was 55,000 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 698 researchers from Poland in 2024. The estimated annual scientific output in 2024 produced by research communities, projects and scientific collaborations from Poland and supported by the EGI Federation is estimated to amount to over 1,480 peer reviewed scientific publications. The EGI Federation is currently working with over 40 Research Infrastructures, 21 of which include Polish partners. These EGI-enabled research infrastructures, their Polish members and their 2024 scientific output (publications) are detailed in the following pages of the report.

## Polish research collaborations in EGI

### ALICE (High-Energy Physics)

- The Henryk Niewodniczanski Institute of Nuclear Physics, Polish Academy of Sciences
- AGH University of Science and Technology
- National Center for Nuclear Studies Warszawa,
- -Warsaw University of Technology

### ATLAS (High-Energy Physics)

- Institute of Nuclear Physics Polish Academy of Sciences
- AGH University of Science and Technology,
- Jagiellonian University

## 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)

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)

## Number of scientific papers published in 2024

47

126

## Polish research collaborations in EGI

## EGI supported activities and services

## Number of scientific papers published in 2024

### AUGER (Astronomy)

- Institute of Nuclear Physics PAN
- University of Łódź

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)

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### BELLE (High-Energy Physics)

- Institute of Nuclear Physics PAN

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)

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## Polish research collaborations in EGI

## EGI supported activities and services

## Number of scientific papers published in 2024

### CLARIN (Linguistics)

- CLARIN PL, Wrocław Uni of Technology

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)

- National Centre for Nuclear Research
- AGH University of Science and Technology
- University of Warsaw

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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### CTA (Astronomy)

- CYFRONET AGH
- Polish Academy of Sciences
- University of Science and Technology, Kraków
- Jagiellonian University
- University of Zielona Góra
- University of Łódź
- University of Warsaw
- National Centre for Nuclear Research, Warsaw
- Nicolaus Copernicus University
- University of Białystok
- Warsaw University of Technology

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)

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## Polish research collaborations in EGI

## EGI supported activities and services

## Number of scientific papers published in 2024

### DUNE (Astroparticle Physics)

- Institute of Nuclear Physics (IFJ PAN)
- National Centre for Nuclear Research (NCBJ)
- University of Warsaw
- University of Wrocław
- Warsaw University of Technology

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)

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### ELI-NP (Nuclear Physics)

- Institute of Plasma Physics and Laser Microfusion, Warsaw
- University of Warsaw
- Polish Academy of Science
- National Centre for Nuclear Research

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:

- 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

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### EMPHASIS (Agriculture)

- Research Center for Cultivar Testing (COBORU)

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

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## Polish research collaborations in EGI

## EGI supported activities and services

## Number of scientific papers published in 2024

### FUSION (Fusion)

- PSNC

The Fusion community has been using compute resources from EGI partners since 2018. The services from the EGI Federation used by the community include:

- EGI Cloud Compute
- EGI Online Storage

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### HESS (Astroparticle Physics)

- Nicolaus Copernicus Astronomical Center
- University of Warsaw
- Instytut Fizyki Jądrowej PAN
- Uniwersytet Jagielloński
- Nicolaus Copernicus University

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

- EGI HTC services from 3 EGI participant countries (DE, FR, 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)

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### icarus.exp.org (Physical Sciences)

- Institute of Nuclear Physics, Kraków
- National Centre for Nuclear Research
- University of Silesia
- Warsaw Univ. of Technology

The collaboration with EGI started back in 2019. The services from the EGI federation that the experiment uses include:

- EGI HTC services from 2 EGI federated sites from IT
- 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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Polish research collaborations in EGI

EGI supported activities and services

Number of scientific papers published in 2024

ILC (High-Energy Physics)

- Mickiewicza Cracow,
- University of Warsaw
- Warsaw University of Technology
- National Center of Nuclear Research (NCBJ)
- Technical University of Lodz
- Polish Academy of Sciences (IFJ PAN)

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)

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KM3NET (Neutrino Observatory)

- NCBJ – National Centre for Nuclear Research

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)

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LHcB (High-Energy Physics)

- AGH Univ. of Science and Technology
- HN Inst. for Nuclear Physics
- NCBJ

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, 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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Polish research collaborations in EGI

EGI supported activities and services

Number of scientific papers published in 2024

LSST (Astronomy)

- National Centre for Nuclear Research (NCBJ)

The LSST survey federates High Throughput Compute (HTC) resources from France and the UK and run an analysis campaign in 2020 to prepare for the opening of the Vera C. Rubin Observatory. The campaign consumed over 11 million CPU-hour in 2020 to analyse generated images, imitating the telescope images that are expected to become available from 2023. The LSST 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)

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SeaDataNet (Oceanography)

- Institute of Oceanology, Polish Academy of Sciences (IOPAN)

SeaDataNet has been supported by EGI partners in the EOSC-hub project in the setup and validation of a data access service on federated cloud resources. Since 2021 the SeaDataNet community is represented in the EGI Council by MARIS, and works with several EGI members in the EGI-ACE Horizon 2020 project. In EGI-ACE, SeaDataNet and EGI partners from Spain are setting up and operating a WebOcean Data Analysis service in the EGI cloud federation, and deliver the service in EOSC.

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Polish research collaborations in EGI

VIRGO (Astrophysics)

- CYFRONET
- Warsaw University
- Jagiellonian University
- Polish Academy of Sciences
- University of Wrocław
- National Center for Nuclear Research
- University of Białystok
- University of Science and Technology in Cracow

EGI supported activities and services

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

- EGI HTC services from 8 data centres from France, Italy, The Netherlands, Spain and 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)
- Since 2021 Virgo works with EGI in the EGI-ACE Horizon 2020 project to evaluate and adopt data analysis, federated authentication-authorisation and data management services for thematic applications.

Number of scientific papers published in 2024

5

WeNMR (Structural Biology)

- UNIVERSITY OF GDANSK
- POLISH ACADEMY OF SCIENCES
- WROCLAW MEDICAL UNIVERSITY
- Uniwersytet Poznański
- UNIVERSITY OF WARSAW
- Silesian University of Technology
- INSTITUTE OF PLANT PROTECTION
- DEPARTMENT OF BIOSTATISTICS AND TRANSLATIONAL MEDICINE
- MAŁOPOLSKA CENTRE OF BIOTECHNOLOGY
- WARSAW UNIVERSITY OF LIFE SCIENCES

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, Poland, 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, CYFRONET supported 3 Service Level Agreements for international scientific communities via EGI, delivering Cloud Computing, Online Storage and DataHub services.

# Community Engagement

During 2024, 22 participants from Poland joined the EGI2024 conference and delivered 3 talks in it. Moreover, one speaker from a Polish institution delivered the webinar DataHub: an innovative platform for ingestion, management and publishing of distributed scientific data (11/09/2024)

# 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.



Project title	Scope of collaboration	Participating beneficiaries from the country
 EOSC Blue-Cloud2026	EGI contributes with the services Cloud computing, Notebooks and Applications on demand, FTS, data archiving. It participates to the EOSC Integration processes and the sustainability business plan.	<ul style="list-style-type: none"><li>• IO PAN</li></ul>
  CRAFT-QA	EGI coordinates the task dedicated to the Single Sign-On access with the EGI Check-in service.	<ul style="list-style-type: none"><li>• University of Warsaw</li><li>• IBL PAN</li></ul>
	EGI is involved in developing a detailed roadmap, analyzing state-of-the-art technology, and designing a modular architecture framework. Moreover, It works to improve data monetization strategies for EU companies and define KPIs for fair dataset valuation. EGI will help develop business cases for data sharing platforms, explore non-monetary data value dimensions, and prepare pilots for framework deployment. Demonstration and validation tests will be conducted at pilot sites. Additionally, EGI contributes to disseminating results, managing innovation and sustainability, participating in standardization activities, and coordinating with the Data Spaces Support Centre.	<ul style="list-style-type: none"><li>• WODR Poznań</li><li>• IDFS SPOLKA ZOO</li><li>• ICHB PAN</li></ul>
	EGI works on integrating datasets, tools, and workflows from the broader landscape into ECHOES. It supports the technical framework and infrastructure with a scalable, secure storage and compute infrastructure. Also, EGI provides an authentication and authorisation infrastructure (AAI) for the single entry point in the cloud environment. Last but not least, EGI contributes to the project's long-term sustainability, leverages ECCCH's advocacy and open innovation by engaging with the private sector.	<ul style="list-style-type: none"><li>• ICHB PAN</li></ul>


Project title


Scope of collaboration


Participating beneficiaries from the country


	<p>EGI works on the activities related to the SRIA update and technical development, in particular, interacting with the EOSC task forces and liaising with European partnerships and other initiatives. Moreover, EGI works on the sustainability of the EOSC, with specific activities towards the definition of the EOSC rules of participation, the collaboration expansion.</p>	<ul style="list-style-type: none"><li>National Science Centre (Narodowe Centrum Nauki)</li></ul>
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	<p>EGI contributed to the design, operation and interoperability of EOSC Core services, to running the EOSC Digital Innovation Hub, as well as to resource strategy and the processes for onboarding new groups to EOSC. EGI was responsible for requirements collection and analysis for both the EOSC Back Office and Front Office. It also leads all operational aspects of the EOSC Portal. Finally, EGI played a leading role in developing the EOSC SMS.</p>	<ul style="list-style-type: none"><li>Akademia Gorniczo-Hutnicza Im Stanislaw Staszica w Krakowie</li><li>Instytut Chemi Bioorganicznej Polskiej Adademii Nauk</li></ul>
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	<p>Within EUCAIM, EGI works on the development of the platform core services in addition to supporting the creation of the platform central storage and infrastructure. Moreover, EGI leads the activities around the design and implementation of a federated learning and data analysis infrastructure, and ensures access to HPC/Cloud resources across Europe.</p>	<ul style="list-style-type: none"><li>Medical University of Gdansk</li><li>Łukasiewicz – PORT</li></ul>
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	<p>EGI contributes to the Federation sustainability model and the expansion of the DIH ecosystem. Moreover, it collaborates to the development and maintenance of the service catalogue, to the training programme, and to the dissemination and outreach of the project activities and results.</p>	<ul style="list-style-type: none"><li>ICHB PAN</li></ul>
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	<p>EGI Foundation collaborates to the defi nition of the technical requirements, to the authentication and authorisation infrastructure of the project, and will support the project services onboarding to the EOSC Marketplace.</p>	<ul style="list-style-type: none"><li>CYFRONET</li></ul>
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	<p>EGI leads 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 activities 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"><li>AGH University of Science and Technology</li><li>ICHB PAN</li></ul>
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Project title


Scope of collaboration

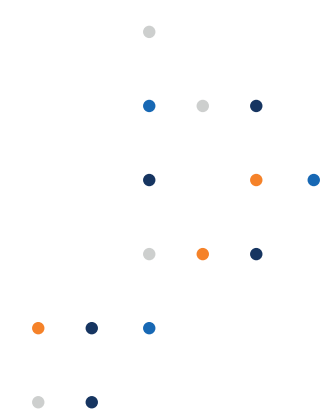
Participating beneficiaries from the country

	<p>EGI was involved in coordinating the Green Deal Data Space, establishing a stakeholder network, and managing dissemination and online presence. Also. EGI contributed to developing the Technical Architecture. Moreover, EGI coordinated efforts on Governance and Business Models, analyzing current governance schemes and proposing appropriate governance for the Green Deal Data Space. Additionally, EGI contributed to the implementation roadmap for the Green Deal Data Space.</p>	<ul style="list-style-type: none"><li>IGF PAN</li></ul>
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	<p>Within the project, EGI will conduct an environmental impact landscape assessment within the EGI federation and in partner ESFRIs to identify best practices and opportunities related to environmental sustainability. The project will develop an environmental metrics publication system for digital service providers and energy-aware brokering logics for scientific workflows running on EGI HTC, cloud, container and AI services. EGI will develop an environmental impact self-assessment questionnaire for Research Infrastructures. Finally, EGI will assist with project communications and will provide consultancy and training for service providers within and beyond EGI on methods and approaches to lower their environmental impact.</p>	<ul style="list-style-type: none"><li>ICHB PAN</li></ul>
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	<p>EGI plays a key role in IRISCC by leading communication, dissemination, engagement, and exploitation efforts (WP1), including stakeholder mapping and promotion of the service catalogue. In WP3, EGI supports knowledge exchange and user training by developing climate risk training modules and providing access to its training and computing infrastructure.. For WP6, EGI helps assess integrated knowledge services by aligning access policies, analysing AAI services, and contributing to FAIR and interoperability frameworks.</p>	<ul style="list-style-type: none"><li>University of Silesia in Katowice</li></ul>
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	<p>The EGI Foundation supports the project in defining interoperability standards among the participating facilities, and with the broader landscape, including EOSC, and leads the design of sustainable services and activities that will last beyond the project. EGI members deliver a federated cloud environment with a cloud-based ‘EGI Notebooks’ service for the PITHIA e-science centre to offer a scalable and customisable web environment for writing workflows, exchanging workflows, accessing, analysis and sharing of data.</p>	<ul style="list-style-type: none"><li>Space Research Centre PAS</li></ul>
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Project title

Scope of collaboration

Participating beneficiaries from the country



EGI leads the work on Services Provision, which collects information about the services that the RI can provide and creates a plan for a unified single access point RI, including access policies for the distributed resources. EGI also contributes to the development of the financial aspect of the future RI, defines the business cases and the cost book, supports the strategy and enhance the impact of the RI, contributes to the Dissemination and Communication plans (WP5), and to the creation of the Italian central Hub for the preparation phase.

- Institute of Bioorganic Chemistry of the Polish Academy of Sciences EGI

# Infrastructure contributions

The EGI Federation offers two complementary compute capabilities: the High-Throughput Compute (HTC) federation and the Cloud federation. 6 Polish data centres contribute to these federations:

- HTC Federation:**
- CYFRONET-LCG2 (ACK CYFRONET AGH)
  - CYFRONET-PROMETHEUS (ACK CYFRONET AGH)
  - NCBJ-CIS (National Centre for Nuclear Research, Otwock, Poland)
  - PSNC (Poznan Supercomputing and Networking Center)
  - WUT

- Cloud Federation:**
- CYFRONET-CLOUD (ACK CYFRONET AGH)

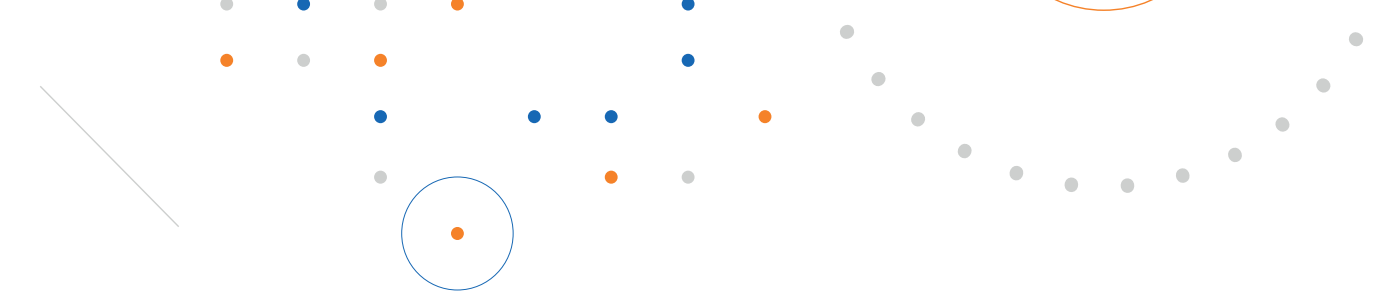
The data centres provided 6 service endpoints and delivered 90,819,974 HTC CPUhours to EGI

communities in 2024. The data centres responded to 57 support tickets through the EGI Helpdesk.

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

- LHcB 48.10%;
- ATLAS 26.47%;
- CMS 14.94%;
- ALICE 10.38%;

With the help of the EGI Security Vulnerability Group, the Polish sites avoided 50 critical vulnerabilities in foundational software systems during 2024.



# 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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