



EGI Council Participant: CESNET

# Participating in EGI Impact Report: Czech Republic

# 2024

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

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# Infographic

2024

## 629 service users

In 2024, 629 researchers from Czech institutions used the services provided by the EGI Federation



## 1,571 publications

The research communities, projects and scientific collaborations from Czech Republic supported by the EGI led to 1,571 peer-reviewed scientific publications

## 22 Supported communities

In 2024, the Czech infrastructure supported 22 research communities in the following disciplines: Climate Research, Health and Medicine, Linguistics, Physics



## Projects

Czech partners participate in 12 collaboration projects.

## Compute Delivery

In 2024, the infrastructure providers from Czech Republic federated in EGI delivered 161,296,124 HTC CPU Hours and 9,459,833 Cloud CPU Hours.



# Country overview

Number of supported publications **1,571**

Number of total service users **629**

Scientific Communities supported **22**

Data Centres contributing to the Federation **3**

Collaboration projects **12**

Total HTC CPU hours delivered **161,296,124**

Total Cloud CPU hours delivered **9,459,833**

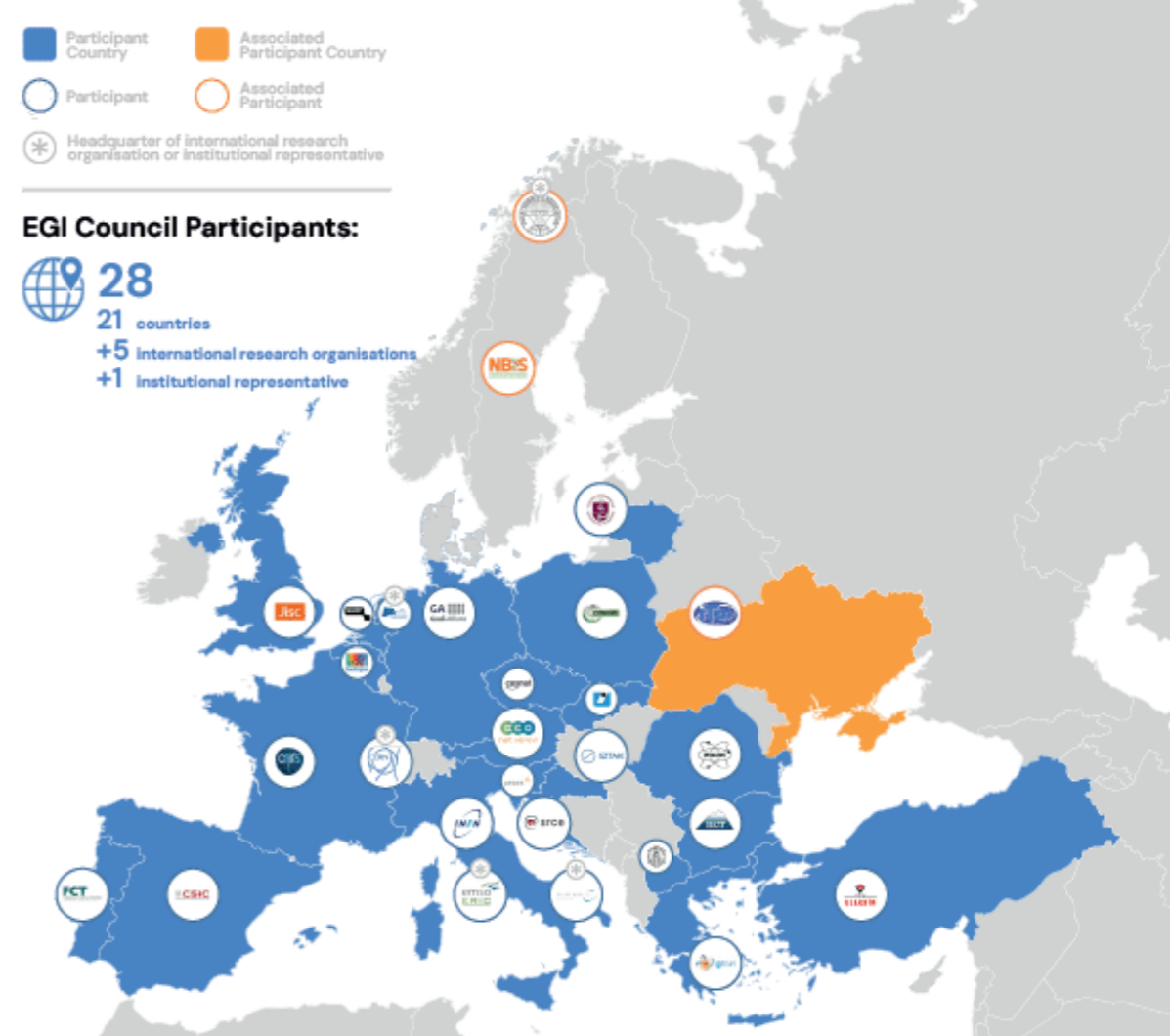
# About EGI

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 CESNET

The National Grid Infrastructure is operated by MetaCentrum; CESNET is the department responsible for coordinating and managing grid activities in the Czech Republic on behalf of the Czech NGI. Long-term goal of the MetaCentrum project is operation and coordination of distributed computing and data storage infrastructure in the Czech Republic as a dynamic network of resources across different locations and administrative domains, as a part of the pan-European infrastructure built in the framework of the EGI project, accompanied by an appropriate support environment and continual expansion of available computational capacities.

The main aim of the project is the constitution of a virtual computer that allows effective utilization of installed facilities and solving tasks whose memory and/or CPU requirements exceeds possibility of individual single computing centers. MetaCentrum structure is flexible enough, any academic subject within the Czech Republic is able to fully integrate any computing capacities in current MetaCentrum infrastructure getting significant higher computing power for research.

One of the purposes of MetaCentrum is to establish a fully-fledged National Grid Initiative (NGI) in the Czech Republic with connection to the international environment.

MetaCentrum officially represent the interests of the national Grid community towards other national and international bodies. Ultimately, MetaCentrum aims to provide computational power that would not have been possible without a Grid infrastructure.

# 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 Czech Republic excellence in science

MetaCentrum coordinates the Czech participation to the EGI Federation; MetaCentrum is represented by CESNET in the EGI Council. MetaCentrum promotes the building and operation of a multidisciplinary national Distributed Computing Infrastructure open to all sciences and to developing countries in Czech Republic. This report provides an overview of the activities of MetaCentrum in EGI, and the impact that was achieved thanks to this participation. The annual membership fee contributed by MetaCentrum to the EGI Foundation in 2024 was 40,000 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 629 researchers from Czech Republic in 2024. The estimated annual scientific output in 2024 produced by research communities, projects and scientific collaborations from Czech Republic and supported by the EGI Federation is estimated to amount to more than 1,570 peer reviewed scientific publications.

The EGI Federation is currently working with over 40 Research Infrastructures, 22 of which include Czech partners. These EGI-enabled research infrastructures, their Czech members and their 2024 scientific output (publications) are detailed in the following pages of the report.

## Czech research collaborations in EGI

### ALICE (High-Energy Physics)

- Institute Of Physics Of The Czech Academy Of Sciences, Greybook, Prague
- Faculty Of Nuclear Sciences And Physical Engineering, Czech Technical University In Prague, Greybook, Prague
- Nuclear Physics Institute Of The Czech Academy Of Science, Greybook, Rez U Prahy

### ATLAS (High-Energy Physics)

- Palacký University,
- Charles University,
- Czech Technical University in Prague,
- Institute of Physics of the Czech Academy of Sciences

## 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)

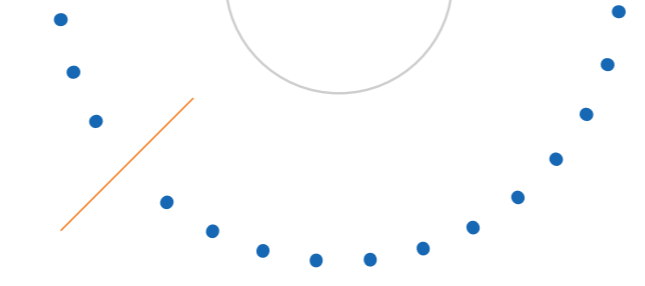
ATLAS has been supported since 2012 as part of the EGI WLCG collaboration, formally agreed in an MoU. Federated services delivered in the context of the WLCG MoU, including:

- 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



## Czech research collaborations in EGI

## EGI supported activities and services

## Number of scientific papers published in 2024

### AUGER (Astronomy)

- Charles University Prague, Institute of Particle and Nuclear Physics
- Institute of Physics (FZU) of the Czech Academy of Sciences, Czech Republic
- Palacky University, RCPTM, Olomouc

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)

- Charles Univ. Prague

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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### CLARIN (Linguistics)

- LINDAT/CLARIAH-CZ Charles University Prague

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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## Czech research collaborations in EGI

## EGI supported activities and services

## Number of scientific papers published in 2024

### CMS (High-Energy Physics)

- Czech Republic Charles University

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)

- Astronomical Institute of the Czech Academy of Sciences,
- Charles University, Institute of Particle & Nuclear Physics,
- Palacky University Olomouc

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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## Czech research collaborations in EGI

## EGI supported activities and services

## Number of scientific papers published in 2024

### Comet.j-parc.jp (Physical Sciences)

- Charles University in Prague, Prague
- Czech Technical University in Prague

The collaboration with EGI started back in 2015. The services from the EGI federation that the experiment uses include:

- EGI HTC services from 7 EGI federated sites from FR 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)

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### COMPASS (Physical Sciences)

- Faculty of Mathematics and Physics, CZ
- Czech Technical University in Prague
- Institute of Scientific Instruments The Czech Academy of Science
- Technical University of Liberec
- NCBJ
- Institute of Radioelectronics and Multimedia Technology

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)

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### DUNE (Astroparticle Physics)

- Czech Technical University in Prague
- Institute of Particle and Nuclear Physics of the Faculty of Mathematics and Physics of the Charles University in Prague
- Institute of Physics of the Czech Academy of Sciences (IOP CAS)

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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## Czech research collaborations in EGI

## EGI supported activities and services

## Number of scientific papers published in 2024

### ELI-BEAM (Physical Sciences)

- Czech Academy of Sciences

ELI works with EGI since 2016 on exploring and validating approaches for off-site computing and data management. ELI-Beams 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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### ELI-NP (Nuclear Physics)

- Czech Academy of Sciences

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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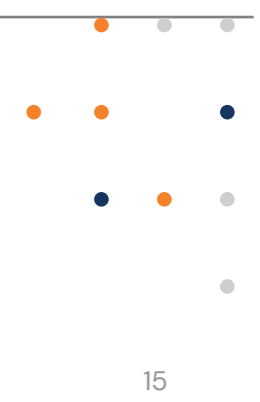
### EMPHASIS (Agriculture)

- Centre of the Region Haná for Biotechnological and Agricultural Research, Palacký University in Olomouc
- CEITEC, Masaryk University in Brno
- Photosystems Instruments, s.r.o.

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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## Czech research collaborations in EGI

## EGI supported activities and services

Number of scientific papers published in 2024

### ILC (High-Energy Physics)

- Czech Technical University in Prague, Institute of Experimental and Applied Physics (IEAP), Praha
- Czech Technical University, Faculty of Nuclear Science and Physical Engineering, Prague
- Charles University, Institute of Particle & Nuclear Physics, Faculty of Mathematics and Physics, Praha
- Institute of Physics, ASCR, Academy of Science of the Czech Republic, Division of Elementary Particle Physics, Prague

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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### INSTRUCT (Structural Biology)

- Instruct Centre CZ
- BIOCEV
- CEITEC

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)

- Charles University Prague

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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## Czech research collaborations in EGI

## EGI supported activities and services

Number of scientific papers published in 2024

### LSST (Astronomy)

- The Institute of Physics of the Academy of the Czech Republic

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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### MOEDAL-MAPP (Physical Sciences)

- Czech Technical University (IEAP)

MOEDAL-MAP has been supported since 2016 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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## Czech research collaborations in EGI

## EGI supported activities and services

## Number of scientific papers published in 2024

### NA62 (High-Energy Physics)

- Charles 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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### PANOSC (Photon and Neutron)

- ELI-DC AISBL
- Extreme Light Infrastructure – ELI ERIC

PaNOSC has been using compute resources from EGI partners since 2018. The services from the EGI federation that OPENCoastS uses include:

- EGI Cloud services from 2 EGI federated data centres from CZ and DE
- EGI AAI Check-in
- EGI Notebooks
- EGI DataHub

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### VIRGO (Astrophysics)

- Institute of Physics of the Czech Academy of Sciences

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.

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## Czech research collaborations in EGI

## EGI supported activities and services

## Number of scientific papers published in 2024

### WeNMR (Structural Biology)

- UNIVERSITY BRNO
- INSTITUTE OF VERTEBRATE BIOLOGY
- CHARLES UNIVERSITY IN PRAGUE
- MASARYK UNIVERSITY CEITEC
- FACULTY OF SCIENCE
- UNIVERSITY OF SOUTH BOHEMIA
- IOCB
- UCT PRAGUE

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

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

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# Service Level Agreements

During 2024, CESNET supported 14 Service Level Agreements for international scientific communities via EGI, delivering Cloud Computing, Online Storage, Notebooks and DataHub services

# Community Engagement

During 2024, 16 participants from Czech Republic joined the EGI2024 conference and delivered 3 talks in it. Moreover, one speaker from Czech Republic delivered the webinar Introduction to the new generation EGI container execution platform (24/01/2024).

# 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.



interTwin







eosoc | BEYOND









**Project title**   **Scope of collaboration**   **Participating beneficiaries from the country**

	<p>EGI leads the activities on Communication Dissemination and Exploitation Management and significantly contributes to the technical guidance and architecture definition, trust policy harmonisation and interoperability, validation activities, and to the preparation of the Compendium and recommendations.</p>	<ul style="list-style-type: none"> <li>• Masaryk University</li> </ul>
	<p>EGI coordinates the task dedicated to the Single Sign-On access with the EGI Check-in service.</p>	<ul style="list-style-type: none"> <li>• Masaryk University</li> </ul>
	<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>• Masaryk University</li> </ul>
	<p>EGI contributes to the definition of requirements, metrics, specifications and pilots for the assessment of thematic services and platforms</p>	<ul style="list-style-type: none"> <li>• CESNET</li> </ul>
	<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>• CESNET</li> </ul>

**Project title**   **Scope of collaboration**   **Participating beneficiaries from the country**

	<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>• CESNET</li> </ul>
	<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>• Masarykova univerzita</li> <li>• CzechGlobe</li> </ul>
	<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>• Ustav Fyziky Atmosfery Av Cr</li> </ul>
	<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>• CESNET</li> </ul>

# Infrastructure contributions

The EGI Federation offers two complementary compute capabilities: the High-Throughput Compute (HTC) federation and the Cloud federation. 3 Czech datacentres contribute to these federations:

HTC Federation:

- prague\_cesnet\_lcg2\_cert (CESNET)
- prague\_lcg2 (Institute of Physics of the Czech Academy of Science)

Cloud Federation:

- CESNET\_MCC (CESNET)

The data centres provided 4 service endpoints and delivered 161,296,124 CPUhours and 9,459,833 Cloud CPUHours to EGI communities in 2024. The data centres responded to 21 support tickets through the EGI Helpdesk.

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

- ATLAS 77.03%
- ALICE 19.58%
- BELLE 2.84%
- AUGER 0.22%
- DUNE 0.22%
- FERMILAB 0.12%

With the help of the EGI Security Vulnerability Group, the Czech 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

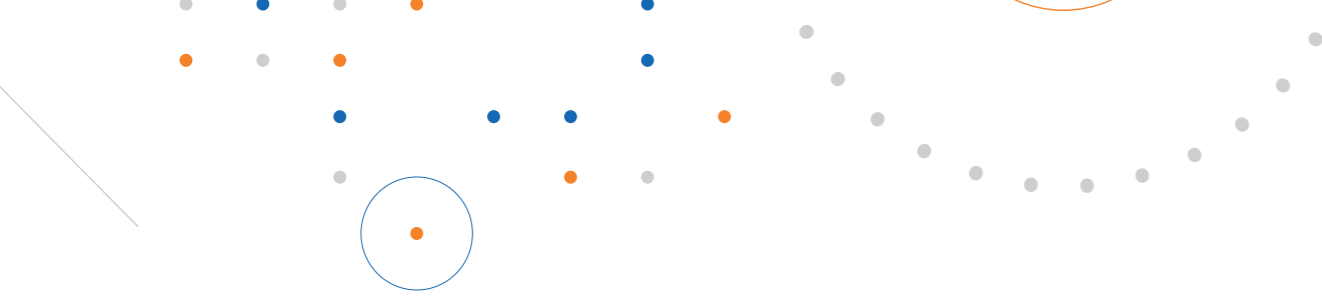
EGI uses the following methodology to capture the number of EGI users who rely on EGI services

- 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

### Contact us

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