

EGI Council Participant: FCT

# Participating in EGI Impact Report: Portugal

egi.eu

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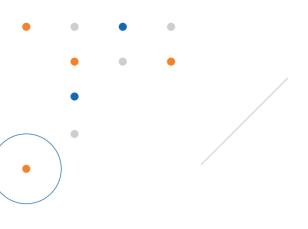
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## Infographic

#### 947 service users

In 2024, 947 researchers from Portuguese institutions used the services provided by the EGI Federation



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#### 1,676 publications

The research communities, projects and scientific collaborations from Portugal supported by the EGI led to 1,676 peerreviewed scientific publications

#### 23 Supported communities

In 2024, the Portuguese infrastructure supported 23 research communities in the following disciplines: Agriculture, Climate Research, Health and Medicine, Linguistics, Physics





#### Projects

Portuguese partners participate in 16 collaboration projects.

#### **Compute Delivery**

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



### Country overview

Number of supported publications

#### Number of total service users

**Scientific Communities** supported

**Data Centres contributing to** the Federation

**Collaboration projects** 

#### Total HTC CPU hours delivered 10,589,693

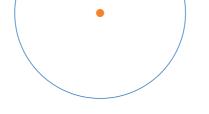
**Total Cloud CPU hours** delivered



#### 1.676

947			
23			
1			
10			
16			

#### 6,376,261



## **About EGI**

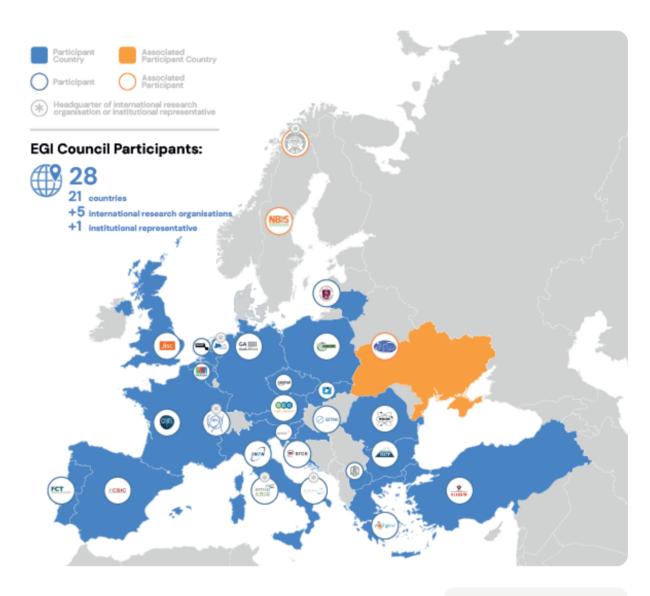
EGI is the federation of computing and storage resource providers united by a mission of delivering advanced computing and data analytics services for research and innovation.

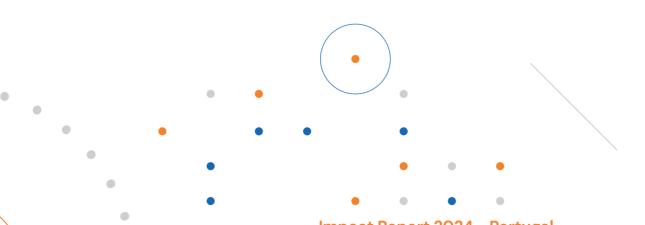
The EGI Federation believes that all researchers should have seamless access to services, resources and expertise to collaborate and conduct worldclass research and innovation. The EGI Federation is coordinated by EGI Foundation, an organisation with headquarters in Amsterdam. The Foundation offers a 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.

06

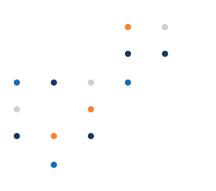
The mission of EGI is pursued by coordinating and provisioning an international federated infrastructure that pools together service providers from both the public and private sectors in Europe to develop, integrate and deliver digital services for compute and data-intensive research and innovation. 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.

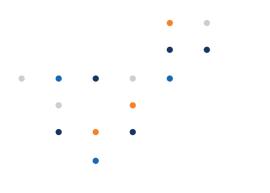




#### Impact Report 2024 - Portugal



Approved EGI Council map from 2024





### About FCT

Fundação para a Ciência e a Tecnologia is the Portuguese public funding agency that supports science, technology and innovation, in all scientific domains, under responsibility of the Ministry for Science, Technology and Higher Education.

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## **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



08





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 Portugal excellence in science

FCT coordinates the Portuguese participation in the EGI Federation; FCT represents Portugal in the EGI Council. The Portuguese National Distributed Computing Infrastructure (INCD) is the e-infrastructure provider in EGI. INCD promotes the building and operation of a multidisciplinary national Distributed Computing Infrastructure open to all sciences in Portugal. This report provides an overview of the activities of Portugal in EGI, and the impact that was achieved thanks to this participation. The annual membership fee contributed by FCT 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.

In 2024, the services of the EGI federation were used by 947 researchers from Portugal. The estimated annual scientific output in 2024 produced by research communities, projects and scientific collaborations from Portugal and supported by the EGI Federation is estimated to amount to over 1,520 peer reviewed scientific publications. The EGI Federation is currently working with over 40 Research Infrastructures, 23 of which include Portuguese partners. These EGI-enabled research infrastructures, their Portuguese members and their 2024 scientific output (publications) are detailed in the following pages of the report.

#### **Portuguese research** collaborations in EGI

#### **EGI supported activities** and services

AMS-02 (Particle Physics) • | IP

uses include:

Security services and activities (CSIRT, Software vulnerability group, international security coordination, policies. IGTF distribution)

#### ATLAS (High-Energy Physics)

- Laboratório de Instrumentação e Física Experimental de Partículas - LIP
- Departamento de Física, Faculdade de Ciências, Universidade de Lisboa,
- Departamento de Física, Universidade de Coimbra
- Departamento de Física, Universidade do Minho
- Departamento de Física Teórica y del Cosmos, Universidad de Granada
- Departamento de Física and CEFITEC of Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa
- Instituto Superior Técnico, Universidade de Lisboa

validation)

- Infrastructure and operations Services (infrastructure catalogue, accounting repository and portal, helpdesk, monitoring, operations portal, AAI)
- Operations coordination (middleware deployment campaigns, procedures, innovation of tools)
- Security services and activities (CSIRT, Software vulnerability group, international security coordination, policies. IGTF distribution)

#### The AMS-02 experiment on the International Space Station has been using compute resources from EGI for more than a decade. The services from the EGI federation that AMS-02

- EGI HTC services from sites in Italy and CERN
- Software distribution services (UMC, CMD, operations documentation)
- Operations coordination (middleware deployment campaigns, procedures, innovation of tools)
- 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
- Software distribution services (UMC, CMD, operations documentation)

#### Number of scientific papers published in 2024



#### AUGER (Astronomy)

- | IP
- IST

#### **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 benefi ts 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)

#### **BIOMED (Life Sciences)**

- Life and Health Sciences Research Institute
- Polytechnical Institute of Cávado and Ave
- | IP
- University of Lisbon
- IBEB-FCUL
- University of Minho
- INESC TEC

- **CLARIN** (Linguistics) PORTULAN CLARIN,
- Universidade de Lisboa
- Universidade de Évora
- Universidade de Coimbra
- Universidade do Minho
- Universidade Católica Portuguesa
- Universidade do Porto
- Universidade Nova de Lisboa
- Universidade dos Açores
- Instituto Politécnico de Tomar

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

- High-Throughput + Online Storage services
- EGI Cloud services
- EGI Workload Manager
- From 2021 the community is one of the Data Space providers supported in the EGI-ACE Horizon 2020 project

CLARIN thematic services has been supported by EGI since 13 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

### 12

Number of

published in

2024

2

scientific papers

#### Portuguese research collaborations in EGI

vo.compass.cern.ch (Physical Sciences)

• LIP

#### CMS (High-Enery Physics) • | IP

#### **EGI supported activities** and services

including:

- Infrastructure and operations Services (infrastructure catalogue, accounting repository and portal, helpdesk, monitoring, operations portal, AAI)
- documentation)

### MoU, including:

- Software support (consultancy to users and system administrators, (software maintenance and validation)
- Software distribution services (UMC, CMD, operations documentation)
- Operations coordination (middleware deployment campaigns, procedures, innovation of tools)

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,

- Software support (consultancy to users and system administrators, (software maintenance and validation)
- Software distribution services (UMC, CMD, operations
- Operations coordination (middleware deployment campaigns, procedures, innovation of tools)
- Security services and activities (CSIRT, Software vulnerability group, international security coordination, policies, IGTF distribution)

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

- Infrastructure and operations Services (infrastructure catalogue, accounting repository and portal, helpdesk, monitoring, operations portal, AAI)
- Security services and activities (CSIRT, Software
- vulnerability group, international security coordination, policies, IGTF distribution)

#### Number of scientific papers published in 2024

#### 109



#### **DUNE (Astroparticle Physics)**

• | IP

#### **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)

#### **ELI-BEAM (Physical Sciences)**

• LIP

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.

#### ELI-NP (Nuclear Physics)

- Champalimaud Foundation
- Instituto Superior Tecnico

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

#### Number of scientific papers published in 2024

37

3

19

#### Portuguese research collaborations in EGI

#### EMSO (Oceanography) EMSO-PT

IPMA

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 setup 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

#### **EMPHASIS** (Agriculture)

- BiolSI, ULisboa
- CIBIO
- FCT-NOVA
- Green-IT, ITQB-NOVA
- INIAV-BPGV (National seed bank)
- LEAF, ULisboa

• LIP

#### ILC (High-Energy Physics)

- EGI HTC services from 27 EGI federated sites from IL, DE, FR, ES, NL, PL, UK
- documentation)
- Operations coordination (middleware deployment campaigns, procedures, innovation of tools) • Security services and activities (CSIRT, Software

#### **EGI supported activities** and services

#### Number of scientific papers published in 2024

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

The ILC experiment has been using compute resources from EGI partners since 2004. The services from the EGI federation that ILC experiments uses include:

- Software distribution services (UMC, CMD, operations
- vulnerability group, international security coordination, policies, IGTF distribution)

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75

#### **INSTRUCT (Structural Biology)**

- FC–ULisboa
- ITQB
- See also WeNMR

#### **EGI supported activities** and services

The WeNMR structural biology community is supported by EGI since 2011 and have a 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, Belgiany, 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.

LifeWatch (Biodiversity and Ecosystem Research)

- Portuguese GBIF node at Instituto Superior de Agronomia
- Research Centre in Biodiversity and Genetic Resources;
- Associate Laboratory (BIOPOLIS/CIBIO-InBIO);
- cE3c-FCUL, LEAF-ISA and CEF-ISA, University of Lisbon;
- CESAM, University of Aveiro;
- MARE, University of Coimbra; • Polytechnic Institute of Viana do Castelo;
- MUHNAC (University of Lisbon);
- MC (University of Coimbra);
- MHNC-UP (University of Porto).

The LifeWatch ERIC including the national nodes of the Global Biodiversity Network (GBIF) from Portugal and Spain have been using compute resources from EGI partners since 2018. The services from the EGI federation that LifeWatch uses include:

- EGI Cloud services from 2 EGI federated sites from ES and PT
- Software distribution services (UMC, CMD, operations documentation)
- Operations coordination (middleware deployment campaigns, procedures, innovation of tools)
- Security services and activities (CSIRT, Software vulnerability group, international security coordination, policies, IGTF distribution)

### 149

72

#### Number of scientific papers published in 2024

#### **Portuguese research** collaborations in EGI

**OPENCoastS and Worsica (Coastal Engineering)** 

LZ (Physical Sciences) • | IP

LNEC

#### **EGI supported activities** and 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)
- .
- Security services and activities (CSIRT, Software vulnerability group, international security coordination, policies, IGTF distribution)

OPENCoastS and Worsica are services integrated in EOSC that have been using compute resources from EGI partners since 2018. The services from the EGI federation that OPENCoastS uses include:

- and PT

#### Number of scientific papers published in 2024

- The LZ survey federates High Throughput Compute (HTC) resources from the UK. The LZ compute federation benefited from the following EGI services:
- Software distribution services (UMC, CMD, operations documentation)
- Operations coordination (middleware deployment campaigns, procedures, innovation of tools)

• EGI Cloud services from 2 EGI federated sites from ES

EGI AAI Check-in

6

#### SKA (Radioastronomy)

Portugal Space

#### **EGI supported activities** and services

#### The Square Kilometre Array (SKA) is an intergovernmental radio telescope project being planned to be built in Australia and South Africa. 8 countries that participate in SKA are also represented in the EGI Council (France, Portugal, Italy, Portugal, Spain, Switzerland, The Netherlands and the United Kingdom). Between 2017-2019 SKA worked with the EGI federation in the AENEAS Horizon 2020 project. The collaboration resulted in recommendations on how to:

- organize federated service management within the SKA European Science Data Centre (ESDC) and across multiple SKA Regional Centres to address the management of the SKA community-specific services.
- federate the ESDC services with existing e-Infrastructure federated services (Identity Provisioning, Authentication and Authorization, tools for federated service management)
- collect SKA and e-Infrastructures requirements to federate and eventually enhance existing federation services.

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.

#### Number of scientific papers published in 2024

91

0

#### **Portuguese research** collaborations in EGI

SNO+ (High-Energy Physics)

VIRGO (Astrophysics)

• Universidade de Lisboa

• Universidade do Minho

• Universidade de Aveiro

and Applications

• Centre for Research and Development in Mathematics

• | IP

#### **EGI supported activities** and services

- and UK
- Software distribution services (UMC, CMD, operations documentation)

- 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.

#### SeaDataNet (Oceanography)

• IHPT Instituto Hidrografico

#### Number of scientific papers published in 2024

- The Snoplus experiment has been using compute resources 3 from EGI partners since 2011. The services from the EGI federation that the Snoplus experiment uses include:
- EGI HTC services from 3 EGI federated sites from DE, ES
- Operations coordination (middleware deployment campaigns, procedures, innovation of tools)
- Security services and activities (CSIRT, Software vulnerability group, international security coordination, policies, IGTF distribution)
- 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 supported activities and services

#### Number of scientific papers published in 2024

939

## Service Level Agreements

During 2024, NCG-INGRID-PT supported 3 Service Level Agreements for international scientific communities via EGI, delivering Cloud Computing, Online Storage and HTC services.

## Community Engagement

During 2024, 4 participants from Portugal joined the EGI2024 conference and delivered 2 talks in it.

egi.eu

#### WeNMR (Structural Biology)

#### • FCUL

- CNC.IBILI
- INSTITUTO DE INVESTIGAÇÃO E INOVAÇÃO EM SAÚDE (I3S)
- UNIVERSITY OF PORTO
- INSTITUTO SUPERIOR TÉCNICO DA UNIVERSIDADE DE LISBOA
- UCIBIO FCT UNIVERSITY NOVA LISBON
- UNIVERSIDADE DE COIMBRA
- ITQB-NOVA
- FACULDADE DE CIÊNCIAS
- FACULTY OF SCIENCES, UNIVERSITY OF LISBON

#### XENON (Dark Matter Physics)

- University of Coimbra
- LIP

#### 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, Portugal, 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.

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

- EGI HTC services from 4 EGI federated data centres from France, Italy, the Netherlands and Israel
- 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)

#### Project title Scope of collaboration

## Participated projects

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

- iMagine (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.







AI4PublicPolicy

AI4EUROPE

**BD**4NRG

meosc Blue-Cloud2026

(CRAFT-DA) COEOSC





egi.eu

Scope of collaboration	• • • • • • • • • • • • • • • • • • •
EGI is contributing to the architectural design and implementation of open distributed software to ensure that AI4Europe evolves as a distributed ecosystem. EGI is also providing its expertise on physical resources, usability, development of systems, distributed systems and new technologies to develop mechanisms for the AI tools to deploy/make use of private/public Cloud and HPC resources.	• GLOBAZ, S.A.
EGI is involved in the activities around Cloud-based AI Tools for Citizen Centric & Autonomous Policy, in particular with the Dynamic provisioning of Cloud and HPC. Moreover, it leads the integration of Validated AI-based Applications and Tools, contributes to dissemination and communication, and leads the the business modelling and sustainability planning.	<ul> <li>Unparallel Innovation Lda</li> <li>Lisboa E-nova</li> </ul>
The EGI Foundation delivers a reference architecture for Smart Energy and extend COSMAG specification to enable B2B multi-party data exchange, while providing full interoperability of leading-edge big data technologies with smart grid standards and operational frameworks; evolve and upscale a number of TRL 5-6 technology enablers; delivers a TRL8 open modular big data analytic toolbox as front-end for one-stop-shop analytics services development by orchestrating legacy and/or third party assets (data, computing resources, models, algorithms); validates such framework through the delivery of predictive and prescriptive edge AI-based big data analytics on 13 large scale pilots, deployed by different energy stakeholders.	<ul> <li>Ren Redes Energéticas Nacionais</li> <li>R&amp;D Nester Centro De Investigação Em Energia</li> <li>Uninova</li> <li>Enercoutim</li> </ul>
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.	• Instituto Hidrografico
EGI coordinates the task dedicated to the Single Sign-On access with the EGI Check-in service.	University of Coimbra

#### Project title Scope of collaboration

#### **Participating beneficiaries** from the country

#### Project title Scope of collaboration



EGI is involved in developing a detailed roadmap, analyzing state-of-the-art technology, and designing a modular architecture framework. Morever, It works to improve data monetization strategies for EU companies and define KPIs ior 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.

- GLOBAZ S A
- E-REDES Distribuicao de Electricidade SA

PHENET

In the project, EGI co-designs and deploys AI models on edge resources, enhancing capacity through its federation's • Universidade do Porto computational and storage resources. EGI expands resource allocations, provides a two-tier e-infrastructure for validation and large-scale data processing, and ensures sustainable setups by coordinating national funding. EGI addresses data management challenges, integrates distributed storage solutions, and connects PHENET with the European Open Science Cloud.

TANGO

EGI contributes to the GAP analysis, User needs and requirements, Definition of System Requirements and Technical Specifications, and Security, in addition to the Self-sovereign Identity Management and Dissemination and Communication. EGI coordinates the task dedicated to Policy recommendations on Distributed Infrastructures, Secure Data Exchange & Data Spaces.



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.

Within EUCAIM, EGI works on the development of the

- Centro Hospitalar Universitário de Santo António
- Champalimaud Foundation
- Servicos Partilhados do Ministerio da Saude
- University of Coimbra



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.

preservation. In particular, EGI will implement a DataHub and

a Data preservation service for the project.

FCiências ID

• University of Trás-os-Montes and Alto Douro



EGI works on the deployment and operation of a FAIR • INL

federated data repository, promoting enhanced exploitation . AIR Centre of project outputs (data and results). It also provides expertise in order to formulate a strategy regarding data

#### **Participating beneficiaries** from the country

- Universidade Nova de Lisboa

- SQUAD IT LDA RIA STONE

### Infrastructure contributions

The EGI Federation offers two complementary compute capabilities: the High-Throughput Compute (HTC) federation and the Cloud federation. One Portuguese research infrastructure participates in both of these federations:

 INCD – Infraestrutura Nacional de Computação Distribuída.

In 2024, INCD provided 11 service endpoints and delivered 10.589.693 HTC CPU hours and 6.376.261 Cloud CPU hours in total to FGI communities.

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

- ATLAS 51.53%
- CMS 48.45%

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

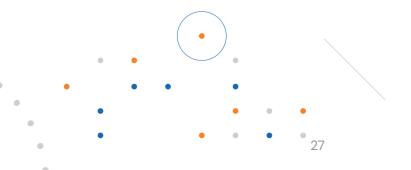
- EGI serves users in the form of 'communities', called 'Virtual Organisations' (VO in short). A VO's members can range from one to tens of thousands. Members of a VO benefit from and use EGI services in different ways (e.g., by using Services for Federation or Services for Research).
- EGI establishes 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

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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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