EGI Council Participant: INFN

Participating in EGI Impact Report: Italy

2024

egi.eu

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Infographic

Country overview

3,380 service users

In 2024, 3,380 researchers from Italian institutions used the services provided by the EGI Federation

1,916 publications

The research communities, projects and scientific collaborations from Italy supported by the EGI led to 1916 peer-reviewed scientific publications

32 Supported communities

In 2024, the Italian infrastructure supported 32 research communities in the following disciplines: Agriculture, Climate Research, Health and Medicine, Linguistics, Physics

Projects

Italian partners participate in 29 collaboration projects.

Compute Delivery

In 2024, the infrastructure providers from Italy federated in EGI delivered 585,777,979 HTC CPU Hours and 3,786,566 Cloud CPU Hours.

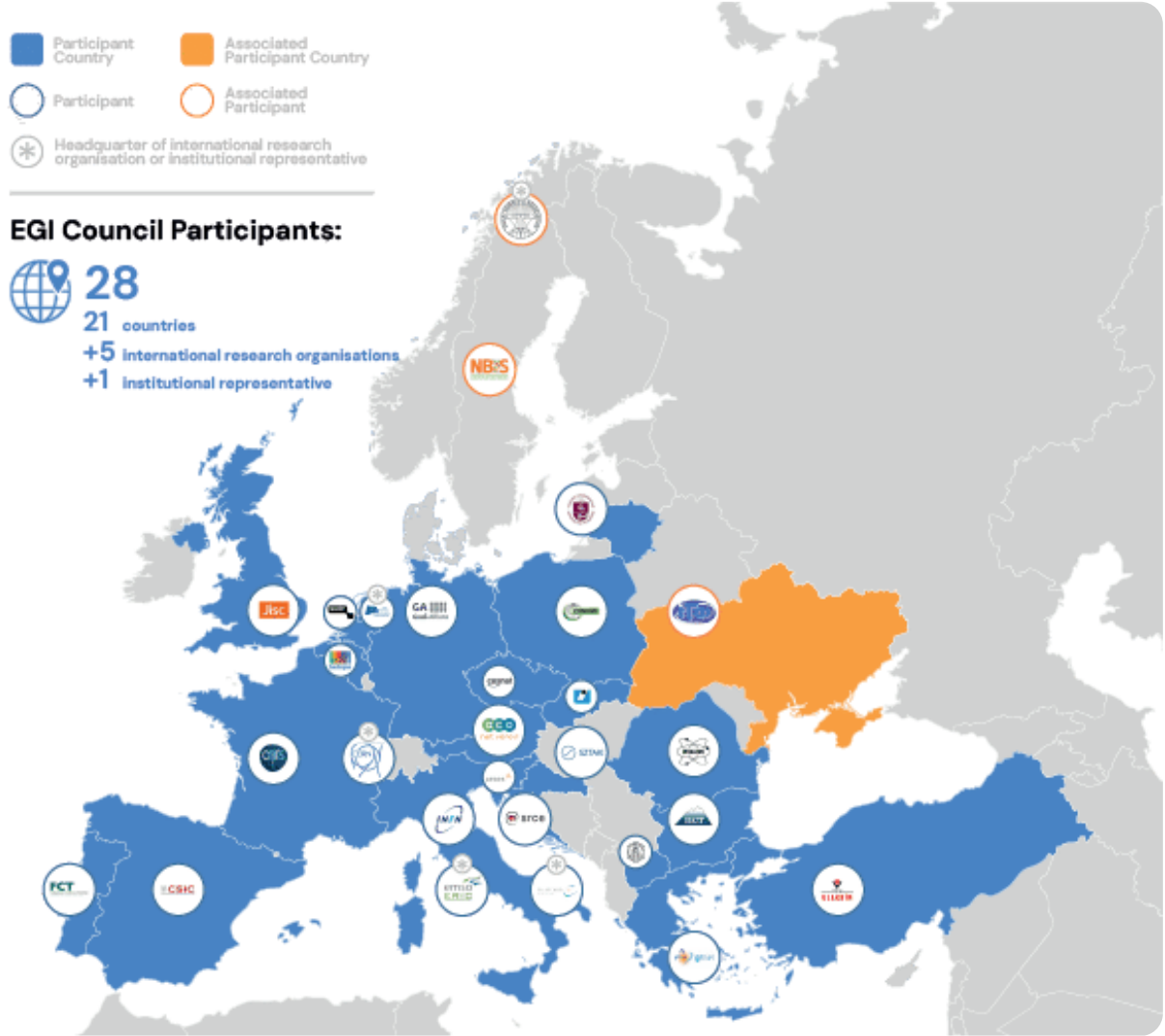|	
Number of supported publications	1,916
Number of total service users	3,380
Scientific Communities supported	32
Data Centres contributing to the Federation	26
Collaboration projects	29
Total HTC CPU hours delivered	585,777,979
Total Cloud CPU hours delivered	3,786,566

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.

EGI Council Participants:

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

Approved EGI Council map from 2024

About INFN

The National Institute for Nuclear Physics (INFN) is the Italian research agency dedicated to the study of the fundamental constituents of matter and the laws that govern them, under the supervision of the Ministry of University and Research (MUR).

It conducts theoretical and experimental research in the fields of subnuclear, nuclear and astroparticle physics. All of the INFN's research activities are undertaken within a framework of international competition, in close collaboration with Italian universities on the basis of solid academic partnerships spanning decades.

In the context of EGI, INFN collaborates with CNR, the National Research Council of Italy, under the premises of a bilateral collaboration agreement to support the EGI-ACE project (2021–2023).

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 Italian excellence in science

INFN coordinates the Italian participation to the EGI Federation. INFN promotes the building and operation of a multidisciplinary national Distributed Computing Infrastructure open to all sciences and to developing countries in Italy. This report provides an overview of the activities of INFN in EGI, and the impact that was achieved thanks to this participation. The annual membership fee contributed by INFN to the EGI Foundation in 2024 was 90,000 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 3,380 researchers from Italy in 2024. The estimated annual scientific output in 2024 produced by research communities, projects and scientific collaborations from Italy and supported by the EGI Federation is estimated to amount to 1,916 peer reviewed scientific publications.

The EGI Federation is currently working with over 40 Research Infrastructures, 32 of which include Italian partners. These EGI-enabled research infrastructures, their Italian members and their 2024 scientific output (publications) are detailed in the following pages of the report.

Italian research collaborations in EGI	EGI supported activities and services	Number of scientific papers published in 2024
AMS-02 (Particle Physics) • INFN various institutes • UNIBO • CNR • UNIMIB • UNIPI • UNITN • ASI • UNIROMA1	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 uses include: • 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) • Security services and activities (CSIRT, Software vulnerability group, international security coordination, policies, IGTF distribution)	**1**
ALICE (High-Energy Physics) • INFN	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)	**47**
ATLAS (High-Energy Physics) • ATLAS (High-Energy Physics) • INFN various institutes • UNIBO • UNIGE • UNISalento • UNIMI • UNINA • UNIPV • UNICAL • UNIROMA1 • UNIROMA2 • UNIROMA3 • UNITN • UNIUD	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)	**126**

Italian research collaborations in EGI	EGI supported activities and services	Number of scientific papers published in 2024
AUGER (Astronomy) • INFN various institutes • INAF • POLIMI • UNISALENTO • UNIVAQ • UNICT • UNIMI • UNINA • UNIROMA2 • UNITO	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)	**12**
BELLE (High-Energy Physics) • INFN various institutes • UNINA • UNIROMA3 • UNIPD • UNITS • UNIPG • UNITO • UNIPI	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)	**9**

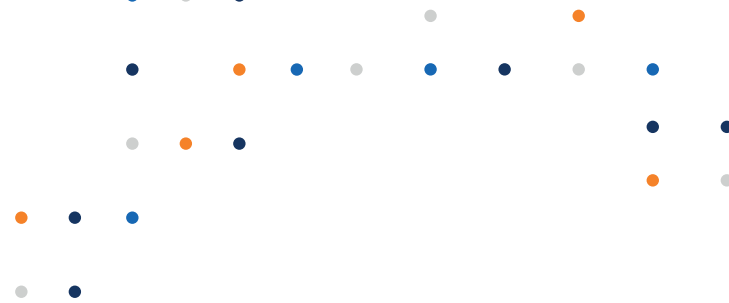| Italian research collaborations in EGI	EGI supported activities and services	Number of scientific papers published in 2024
BIOMED (Life Sciences) • BIOMED (Life Sciences) • UNIVR • INFN • UNIFE • Az. Ospedaliero-Universitaria di Modena • Consorzio COMETA • IRCCS-FBF • UNIROMA1 • ICTP • ASP 3 catania • UNIBO • IRCCS Ca' Granda • Neuropsicologia Alto Adige • POLIMI • CNR	The Life Science Grid Community is supported by EGI for more than one decade and have an 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.	**2**
CLARIN (Linguistics) • CNRS	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	**13**

Italian research collaborations in EGI

EGI supported activities and services

Number of scientific papers published in 2024

CMS (High-Enery Physics)
- INFN various institutes

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)
- IAPS
- INAF various institutes
- INFN various institutes
- IUSS
- UNIBA
- UNIPD
- UNISI
- UNITO
- UNIUD

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

- EGI HTC services from 9 EGI participant countries (CZ, DE, IT, FR, ES, NL, RO, PT, SI)
- Software distribution services (UMC, CMD, operations documentation)
- Operations coordination (middleware deployment campaigns, procedures, innovation of tools)
- Security services and activities (CSIRT, Software vulnerability group, international security coordination, policies, IGTF distribution)

0

Italian research collaborations in EGI

EGI supported activities and services

Number of scientific papers published in 2024

COMPASS (Physical Sciences)
- UNITO
- UNITS

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)
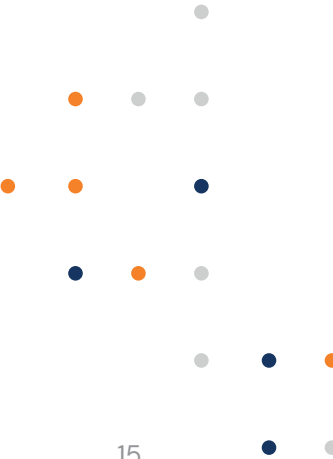
2

DUNE (Astroparticle Physics)
- GSSI
- INFN various institutes
- UNICT
- UNIGE
- UNIPD
- UNIPV
- UNISALENTO
- UNIFE
- UNIPI

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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Italian research collaborations in EGI	EGI supported activities and services	Number of scientific papers published in 2024
ELI-BEAM (Physical Sciences) • UNIME • INFN	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.	3
ELI-NP (Nuclear Physics) • INFN • Elettra-Sincrotrone Trieste	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	19
EMPHASIS (Agriculture) • CNR	EMPHASIS has been supported through the establishment of a Data Space in the EGI-ACE project. Since 2017 EMPHASIS using the following services from EGI: • EGI Check-in • EGI Cloud Compute • EGI Online Storage • EGI DataHub • Technical support • Software integration and piloting	0
EMSO (Oceanography) • INGV	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 harmonize the data sets following Oceansites specifications, FAIR principles, and EOSC guidelines.	0

Italian research collaborations in EGI	EGI supported activities and services	Number of scientific papers published in 2024
FUSION (Fusion) • ENEA	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	0
ICARUS (Physical Sciences)	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)	1
IceCube (Neutrino Observatory) • UNIPD	The IceCube experiment has been using compute resources from EGI partners for more than a decade. The services from the EGI federation that IceCube uses include: • EGI HTC services from 8 sites of 4 EGI participant countries (Belgium, Denmark, Italia 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) • EGI is currently expanding its resource pledge to IceCube with an increase of GPU capacity.	22

Italian research collaborations in EGI	EGI supported activities and services	Number of scientific papers published in 2024
ILC (High-Energy Physics) • INFN various institutes	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)	75
INSTRUCT (Structural Biology) • Instruct Centre IT	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, Belgiany, UK, Poland, the Asia Pacifi c region, IberGrid (Spain and Portugal), Italy, the Latin America region. • EGI Workload Manager • Trust and identity management with Check-in • Technical support: WeNMR benefi ted from continual support through dedicated support activities in various EGI fl agship projects: EGI-Engage, EOSC-hub and EGI-ACE.	72
JUNO (Neutrino Observatory) • UNICT • UNIFE • INFN various institutes • UNIMI • UNIMIB • UNIPD • UNIROMA3	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)	64

Italian research collaborations in EGI	EGI supported activities and services	Number of scientific papers published in 2024
KM3NET (Neutrino Observatory) • INFN • UNIBA • UNIGE • UNINA • UNIPI • UNIROMA1 • UNIBO • UNICAMPANIA • UNISA • INGV	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)	25
LifeWatch (Biodiversity and Ecosystem Research) • Accademia dei 40 • INFN • OGS • Anton Dohrn Zoological Station • Mediterranean Agronomic Institute of Bari, • as well as many universities, regional agencies and private bodies	The LifeWatch experiment has been using compute resources from EGI partners since 2018. The services from the EGI federation that LifeWatch uses include: • EGI Cloud services from 2 EGI federated sites from ES and PT • Software distribution services (UMC, CMD, operations documentation) • Operations coordination (middleware deployment campaigns, procedures, innovation of tools) • Security services and activities (CSIRT, Software vulnerability group, international security coordination, policies, IGTF distribution)	149

Italian research collaborations in EGI	EGI supported activities and services	Number of scientific papers published in 2024
LHcB (High-Energy Physics) • UNIBA • UNIBO • UNICA • UNIFE • UNIFI • UNIGE • UNIMIB • UNIROMA2 • UNIMI • UNIPD • UNIPI • SNS • UNIROMA1 • INFN various institutes	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)	49
LSST (Astronomy) • INAF	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)	11

Italian research collaborations in EGI	EGI supported activities and services	Number of scientific papers published in 2024
MINKE (Oceanography) • OGS	The collaboration with EGI started back in 2021. The services from the EGI federation that the experiment uses include: • EGI HTC services from 1 EGI federated site from ES • Software distribution services (UMC, CMD, operations documentation) • Operations coordination (middleware deployment campaigns, procedures, innovation of tools) • Security services and activities (CSIRT, Software vulnerability group, international security coordination, policies, IGTF distribution)	0
MOEDAL-MAPP (Physical Sciences) • UNIBO • INFN	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)	22
NA62 (High-Energy Physics) • INFN various institutes	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)	0

Italian research collaborations in EGI	EGI supported activities and services	Number of scientific papers published in 2024
PANOSC (Photon and Neutron) • CERIC-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	0
SeaDataNet (Oceanography) • ENEA • INGV • ETT SpA (SCAI Group) • OGS	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.	0
SKA (Radioastronomy) • INAF	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, Italia, 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: • Organise 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.	91

Italian research collaborations in EGI	EGI supported activities and services	Number of scientific papers published in 2024
VIRGO (Astrophysics) • Accademia Nazionale dei Lincei • CNR • UNIGE • UNITO • UNITS • UNISANNIO • UNIUD • UNISA • UNIPR • EGO • GSSI • INAF various institutes • INFN various institutes • CREF • UNIBAS • SNS • UNIMIB • UNISS • UNIURB • UNICAM • UNIFI • UNINA • UNIPD • UNIPG • UNIPI • UNIROMA3 • UNIROMA2 • UNIROMA1 • UNISI • UNITN	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.	5

Italian research collaborations in EGI

EGI supported activities and services

WeNMR (Structural Biology)

- UNIBO
- UNIPR
- UNINA
- IIT
- UNISI
- UNIPV
- ENEA
- BIOGEM
- EBRIS
- CNR BIOPHYSICS INSTITUTE
- UNIVR
- UNICA
- UNIFI
- UNIROMA2
- UNIBO
- UNIPD
- UNIVERSITÀ CAMPUS BIOMEDICO DI ROMA
- UNIPG
- SAN RAFFAELE HOSPITAL
- ISTITUTO NAZIONALE TUMORI
- UNISALENTO
- UNITN
- UNICT
- UNIROMA3
- UNICAL
- NIGUARDA HOSPITAL
- POLIMI
- CRO AVIANO
- UNIBA
- UNIMIB
- IRCCS SANTA LUCIA
- IRCCS ISTITUTO AUXOLOGICO ITALIANO
- UNISANNIO
- UNIVERSITÀ VITA-SALUTE SAN RAFFALE
- UNITUS
- UNIVPM

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, Italia, 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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Italian research collaborations in EGI

EGI supported activities and services

XENON (Dark Matter Physics)

- INFN various institutes

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)

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Service Level Agreements

During 2024, Italian providers including INFN–CLOUD–BARI, INFN–PADOVA–STACK, INFN–LNL–2, INFN–CATANIA, INFN–FERRARA, INFN–PISA and INFN–ROMA3 supported 7 Service Level Agreement for international scientific communities via EGI, delivering Cloud Computing, Online Storage, and HTC services.

Community Engagement

During 2024, 48 participants from Italy joined the EGI2024 conference and delivered 23 talks in it.

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.

Project title	Scope of collaboration	Participating beneficiaries from the country
AI4EUROPE Supporting A PD	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.	• UNIBO
AI4PublicPolicy	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.	• GFT Italia Srl • SIA Spa • Comune Di Genova • EKSO Srl
ANERIS	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.	• EMSO ERIC
AARC	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.	• CINECA • INFN
BD4NRG	EGI developed a Smart Energy reference architecture, extended COSMAG for B2B data exchange, and ensured interoperability with smart grid standards. It advanced key technologies and delivered a TRL 8 modular analytics toolbox, validated through AI-driven analytics in 13 large-scale energy pilots.	• Engineering Ingegneria Informatica Spa It • ENEL Green Power • ASM Terni • E-lex
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.	• CNR • TRUST-IT • NUBISWARE SRL • CMCC • CINECA • OGS • ETT SPA • EMSO-ERIC • INGV

Project title	Scope of collaboration	Participating beneficiaries from the country
CRAFT-OA eosc	EGI coordinates the task dedicated to the Single Sign-On access with the EGI Check-in service.	• UNITO
(logo)	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 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.	• CINECA
DATA SPACES SUPPORT CENTRE	EGI, as a very active player in the Data Space landscape in Europe, joined the project as Associated and collaboration Partner and participates in the Strategic Stakeholder Group (SSG) that will act as a think-and-do-tank to support the project in delivering to the policy objectives.	• ITI • Innovalia Association
echoes	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.	• CNR • ETT SPA
EOSC Future	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.	• EPOS • INFN • SNS • TRUST-IT SRL • EMSO ERIC

Project title	Scope of collaboration	Participating beneficiaries from the country
EUCAIM (CANCER IMAGE EUROPE)	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.	• CNR • Gemelli University Hospital • Istituto Nazionale Tumori Regina Elena • IFOM • Maggioli • Neuromed • Policinico San Donato Research Hospital • UNIROMA1 • SYNLAB • UNIPI
EUH4D	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.	• CINECA • IDC
EUREKA3D	EGI Foundation collaborates to the definition of the technical requirements, to the authentication and authorisation infrastructure of the project, and will support the project services onboarding to the EOSC Marketplace.	• Photoconsortium • Museo della Carta Pescia
eosc EuroScienceGateway	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.	• UNIFI • CNR • INFN
graspos	EGI contributes to the definition of requirements, metrics, specifications and pilots for the assessment of thematic services and platforms	• CNR • UNIBO
GREAT (Green Deal Data Space)	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.	• IDC • CNR • INGV • EPOS ERIC
GreenDIGIT	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.	• CNR • CNIT
lethe (Digital Cognitive Biomarkers)	EGI Foundation is leading the design of LETHE system architecture and building a data collection and big data framework, including set-up of the LETHE big data infrastructure, set-up the authentication scheme for the LETHE project and registration of the LETHE infrastructure and services in EOSC.	• University of Perugia • i2grow Innovation to Grow Srl • extra Red Srl
PHENET	In the project, EGI co-designs and deploys AI models on edge resources, enhancing capacity through its federation's 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.	• Centro di sperimentazione Laimburg
SoBigData (Social Mining & Big Data Analytics RESEARCH INFRASTRUCTURE)	EGI is one of the main contributors to the design and definition of the EOSC architecture and the federated service management framework, and coordinates service pilots participates by the scientific demonstrators. EGI also contributed to the definition of the governance framework and to the works on Rules of Participation. In the project EGI will enhance the SoBigData platform with two services: Jupyter Notebooks and the Workflow manager Galaxy.	• CNR • UNIPI • IMT – Lucca • SNS • UNIROMA1 • UNIVAQ • Societa Cooperativa Sociale Eliante Onlus • Carlo Ratti Associati S.R.L. • Nubisware Srl • Scuola Superiore di Studi Universitari e di Perfezionamento S Anna

Project title	Scope of collaboration	Participating beneficiaries from the country
SOBIGDATA	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.	• CNR • UNIPI • IMT Lucca • SNS • UNIROMA1 • UNIVAQ • Societa Cooperativa Sociale Eliante Onlus • Carlo Ratti Associati S.R.L. • Nubisware Srl • Scuola Superiore Sant'Anna
FANCO	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.	• POSTE ITALIANE SPA • ABI
CEi EUCloudEdgeIoT.eu	Unlock the potential for accelerating the deployment of the Cloud-to-Edge-IoT (CEI) computing continuum in Europe by focusing on the demand-side drivers and challenges to identify technology-driven innovation and business opportunities driving demand value chains.	• IDC • TRUST-IT Services

Infrastructure contributions

The EGI Federation offers two complementary compute capabilities: the High-Throughput Compute (HTC) federation and the Cloud federation. 26 Italian data centres contribute to these federations:

HTC Federation:
- CIRMMP (Consorzio Interuniversitario Risonanze Magnetiche di Metalloproteine Paramagnetiche)
- CNR-ILC-PISA
- INFN-BARI (INFN)
- INFN-CATANIA
- INFN-CNAF-LHCB
- INFN-FERRARA
- INFN-FRASCATI
- INFN-GENOVA
- INFN-LECCE
- INFN-LNL-2
- INFN-MIB
- INFN-MILANO-ATLASC
- INFN-NAPOLI-ATLAS
- INFN-PADOVA
- INFN-PISA
- INFN-ROMA1
- INFN-ROMA1-CMS
- INFN-ROMA3
- INFN-T1
- INFN-TORINO
- INFN-TRIESTE
- RECAS-NAPOLI (University of Naples Federico II and INFN)
- TRIGRID-INFN-CATANIA (INFN)
- UNINA-EGEE (University of Naples Federico II)

Cloud Federation:
- INFN-CLOUD-BARI (former RECAS-BARI),
- INFN-CLOUD-CNAF

The data centres provided 129 service endpoints and delivered 585,777,979 HTC CPUhours and 3,786,566 Cloud CPUHours to EGI communities in 2024. The data centres responded to 339 support tickets through the EGI Helpdesk.
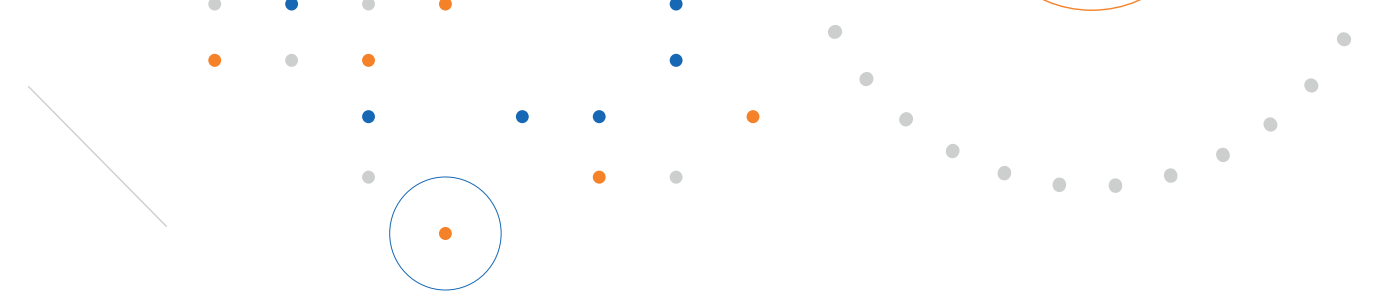
The most active international user groups of the Italian HTC compute resources were:

- CMS 40.75%
- ATLAS 20.39%
- ALICE 18.12%
- LhCB 14.79%
- BELLE 1.86%;

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

- VIRGO 64.70%
- Galaxy 17.78%
- DECIDO 6.56%
- i-NERGY 5.86%
- NBIS 4.83%,

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

egi_einfra   EGI Foundation   EGI

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