EGI Council Participant: JISC

Participating in EGI Impact Report: United Kingdom

2023

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Infographic
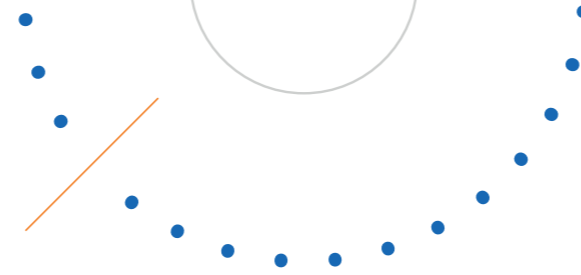
+9860 service users

In 2023, +9860 researchers from UK institutions used the services provided by the EGI Federation
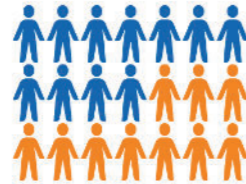
+1900 publications

The research communities, projects and scientific collaborations from UK supported by the EGI led to more than 1900 peer-reviewed scientific publications
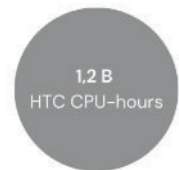
28 Supported communities

In 2023, UK infrastructure supported 28 research communities in the following disciplines: Agriculture, Climate Research, Health and Medicine, Linguistics, Physics

Projects

UK partners participate in 21 collaboration projects + EGI-ACE and interTwin

1,2 B HTC CPU-hours	1,1 M Cloud CPU-hours	18 HTC Data Centres	EGI Federated Cloud member

Country overview

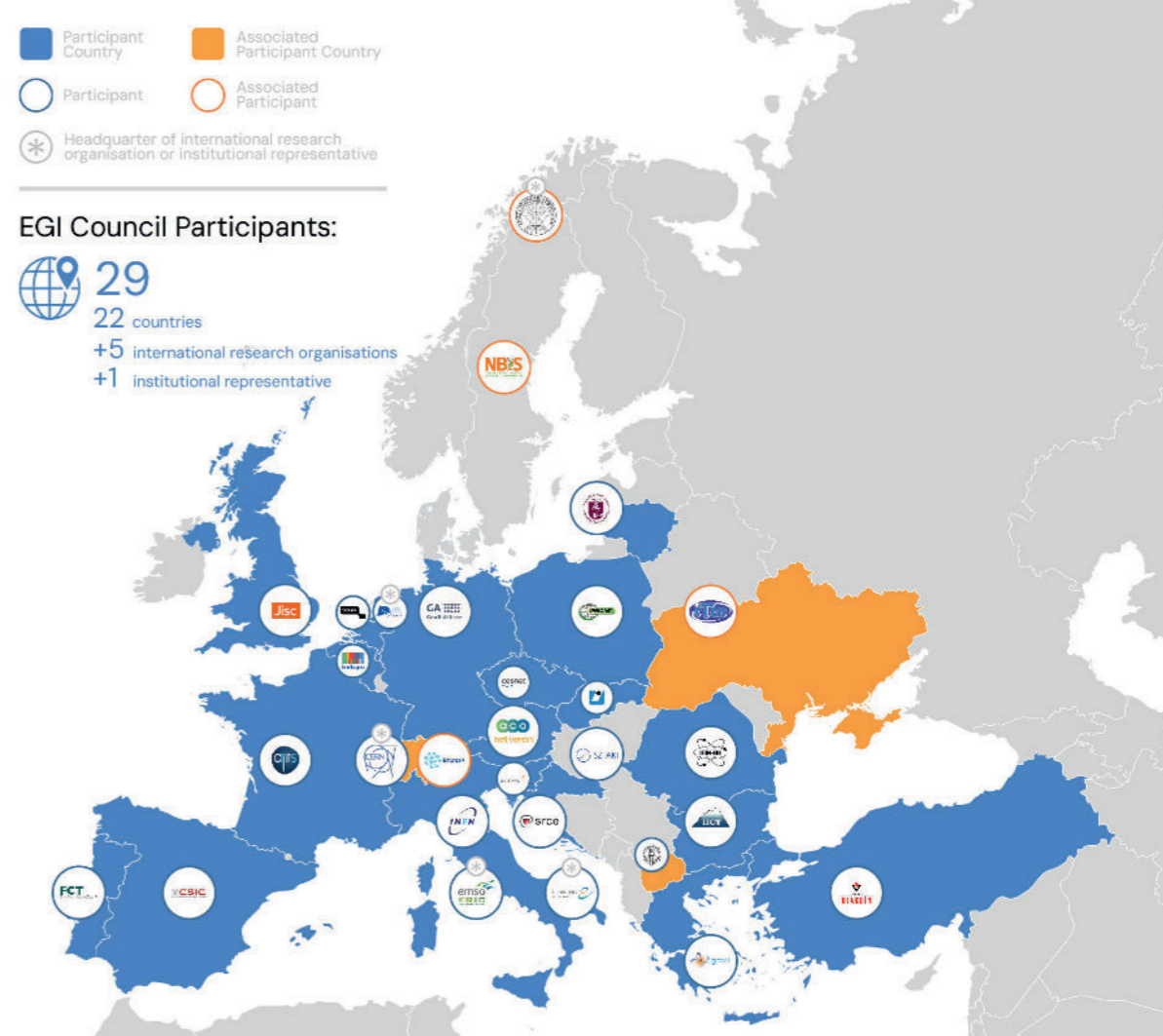|	
Number of supported publications	1966
Number of total service users	9868
Scientific Communities supported	28
Data Centres contributing to the Federation	18
Collaboration projects	21
Total HTC CPU hours delivered	1,236,119,090
Total Cloud CPU hours delivered	1,167,193

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 2023.

Participant Country
Associated Participant Country
Participant
Associated Participant
Headquarter of international research organisation or institutional representative

EGI Council Participants:

29
22 countries
+5 international research organisations
+1 institutional representative

Approved EGI Council map from 2023

About JISC

JISC champions the importance and potential of digital technologies for UK education and research, and does three main things: operate shared digital infrastructure and services; negotiate sector–wide deals with IT vendors and commercial publishers; provide trusted advice and practical assistance for universities, colleges and learning providers. JISC research and development work is integrated across these three areas.

Working closely with colleagues and sector bodies, JISC aim is to: Deliver considerable collective digital advantage, fi nancial savings and effi ciencies for UK universities, colleges and learning providers today; Ensure these benefi ts are sustained and intelligently further enhanced; Do all this as affordably, effi ciently and as cost effectively as possible.

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 2023, the EGI Federation served around 95,000 users (+12%) from over 260 research communities. EGI users consumed 7 Billion HTC CPU hours (–1.04%), 12 Million Cloud CPU hours +17%), ran over 372 M computational jobs (+13.4%) and published over 2,900 open access publications.

As of the previous year, the research community with the largest number of users is Medical and Health Sciences (+43% annual increase in 2023), while the community with most extensive HTC CPU/h consumption is WLCG.

From the scientific communities engaged in 2023, the one with most extensive Cloud CPU/h consumption is Pangeo (+2959% annual increase in 2023).

Moreover, EGI engaged with a total of 265 scientific communities (10 new communities); 19 SMEs and business pilots, and 1 additional Research Infrastructure included in the ESFRI Roadmap, raising the total of number of ESFRI partners/users of EGI to 23.

EGI contribution to UK excellence in science

JISC coordinates the British participation to the EGI Federation, representing the JISC (National grid initiative for UK). JISC promotes the building and operation of a multidisciplinary national Distributed Computing Infrastructure open to all sciences and to developing countries in UK. This report provides an overview of the activities of JISC in EGI, and the impact that was achieved thanks to this participation. The annual membership fee contributed by JISC to the EGI Foundation in 2023 was 75,000 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 2023, our federation was used by over 260 scientific communities, and has been accessed by around 95,000 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 9868 researchers from the UK in 2023. The estimated annual scientific output in 2022 produced by research communities, projects and scientific collaborations from the UK and supported by the EGI Federation is estimated to amount to over 960 peer reviewed scientific publications. The EGI Federation is currently working with over 40 Research Infrastructures, 22 of which include British partners. These EGI-enabled research infrastructures, their British members and their 2023 scientific output (publications) are detailed in the following pages of the report.

British research collaborations in EGI

EGI supported activities and services

Number of scientific papers published in 2023

ALICE (High-Energy Physics)
- University of Birmingham
- STFC Daresbury Laboratory
- Rutherford Appleton Laboratory (RAL)
- University of Liverpool

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)

65

ATLAS (High-Energy Physics)
- University of Birmingham
- University of Sussex
- University of Cambridge
- University of Warwick
- Rutherford Appleton Laboratory
- University of Edinburgh
- Royal Holloway University of London
- University of Glasgow
- Lancaster University
- University of Liverpool
- University College London
- Queen Mary University of London
- University of Manchester
- Oxford University
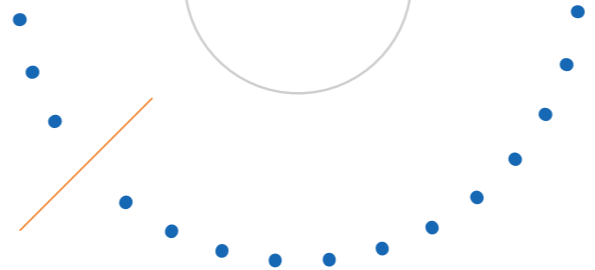- University of Sheffield

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)

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British research collaborations in EGI	EGI supported activities and services	Number of scientific papers published in 2023
CLARIN (Linguistics) • CLARIN–UK, Oxford University	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	38
CMS (High-Enery Physics) • University of Bristol • Rutherford Appleton Laboratory • Brunel University • Imperial College	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)	117
Comet.j-parc.jp (Physical Sciences) • Imperial College London • Rutherford Appleton Laboratory	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)	2

British research collaborations in EGI	EGI supported activities and services	Number of scientific papers published in 2023
CTA (Astronomy) • Armagh Observatory and Planetarium • University of Hertfordshire • Durham University • University of Leicester • University of Sheffield • King's College London • Queen's University Belfast • University of Edinburgh • University of Nottingham • University of Southampton • STFC Rutherford Appleton Laboratory • University of Bath • University of Liverpool • University of Oxford	CThe 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
DUNE (Astroparticle Physics) • Daresbury Laboratory • Durham University • Imperial College of Science • Lancaster University • Queen Mary University of London • Royal Holloway, University of London • STFC RAL • The University of Edinburgh • The University of Liverpool • The University of Manchester • University College London • University of Birmingham • University of Bristol • University of Cambridge • University of Oxford • University of Sheffield • University of Sussex • University of Warwick	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)	20

British research collaborations in EGI	EGI supported activities and services	Number of scientific papers published in 2023
EISCAT_D (Incoherent Scatter Radar) • Rutherford Appleton Laboratory • British Antarctic Survey	EISCAT_3D has been supported through competence centre activities in the EGI-Engage and EOSC-hub projects. Since 2021 the EISCAT Association is member of the EGI Council. Since 2018 the EISCAT_3D experiment is using the following services from EGI: • EGI Workload Manager • EGI High Throughput Compute • Technical support • Software integration and piloting From 2021 the EISCAT Association is working with EGI in the EGI-ACE Horizon 2020 project as an early adopter of the EOSC Compute Platform.	43
ELI-BEAM (Physical Sciences) • The Queen´s University of Belfast • Strathclyde University • Rutherford Appleton Laboratory • Oxford University	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.	37
ELI-NP (Nuclear Physics) • The University of Strathclyde • TUV SUD Nuclear Technologies, • STFC • Queen's University of Belfast • University of York • University of Birmingham, • Sheffield Hallam University	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	48

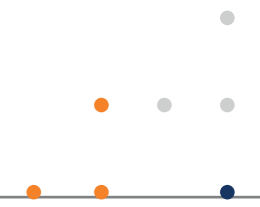| British research collaborations in EGI	EGI supported activities and services	Number of scientific papers published in 2023
EMSO (Oceanography) • NERC • The National Oceanography Centre	The collaboration with EGI started back in 2017 when 4 cloud providers of the EGI Federation agreed to support the 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
EMPHASIS (Agriculture) • University of Sheffield • University of Earlham • University of Nottingham • NIAB • National Plant Phenomics Centre • AgriEpiCentre • Rothamsted Research	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
FUSION (Fusion) • Culham Centre for Fusion Energy	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
HESS (Astroparticle Physics) • The University of Leicester • The Oxford University	The HESS experiment has been using compute resources from EGI partners for more than a decade. The services from the EGI federation that HESS uses include: • EGI HTC services from 3 EGI participant countries (DE, FR, PL) • Software distribution services (UMC, CMD, operations documentation) • Operations coordination (middleware deployment campaigns, procedures, innovation of tools) • Security services and activities (CSIRT, Software vulnerability group, international security coordination, • policies, IGTF distribution)	8

British research collaborations in EGI	EGI supported activities and services	Number of scientific papers published in 2023
IceCube (Neutrino Observatory) • University of Oxford	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, Germany 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.	**20**
ILC (High-Energy Physics) • Univ. Oxford, • ASTeC – STFC • Univ. Glasgow	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)	**43**
INSTRUCT (Structural Biology) • Instruct Centre UK • Diamond Light Source • Molecular Biophysics Suite • Oxford Particle Imaging Centre • Oxford Mass Spectrometry Centre • Research Complex Harwell • STRUBI • Medical research council	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 Pacific region, IberGrid (Spain and Portugal), Italy, the Latin America region. • EGI Workload Manager • Trust and identity management with Check-in • Technical support: WeNMR benefitted from continual support through dedicated support activities in various EGI flagship projects: EGI-Engage, EOSC-hub and EGI-ACE.	**87**

British research collaborations in EGI	EGI supported activities and services	Number of scientific papers published in 2023
LHcB (High-Energy Physics) • Birmingham Univ. • Bristol Univ. • H.H. Wills Physics Laboratory • Cambridge Univ. • Univ. of Warwick • Rutherford Appleton Laboraroty • Edinburgh Univ. • Glasgow Univ. • Liverpool Univ. • Imperial College London • Manchester Univ. • Oxford, Univ.	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)	**44**
LSST (Astronomy) • STFC UK LSST Consortium • University of Oxford	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**

British research collaborations in EGI	EGI supported activities and services	Number of scientific papers published in 2023
LZ (Physical Sciences) • The University of Edinburgh • University of Bristol • University College London • University of Oxford • University of Sheffield • Rutherford Appleton Laboratory • Imperial College London	The LZ survey federates High Throughput Compute (HTC) resources from UK. The LZ compute federation benefited from the following EGI services: • Software support (consultancy to users and system administrators, (software maintenance and validation) • Infrastructure and operations Services (infrastructure catalogue, accounting repository and portal, helpdesk, monitoring, operations portal, AAI) • Software distribution services (UMC, CMD, operations documentation) • Operations coordination (middleware deployment campaigns, procedures, innovation of tools) • Security services and activities (CSIRT, Software vulnerability group, international security coordination, policies, IGTF distribution)	**1**
MINKE (Oceanography) • NATIONAL OCEANOGRAPHY CENTRE	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) • Imperial College London • Kings College London • Queen Mary University • Track Analysis Systems Ltd • IRIS Canterbury	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)	**1**

British research collaborations in EGI	EGI supported activities and services	Number of scientific papers published in 2023
NA62 (High-Energy Physics) • University of Liverpool, • Lancaster University, • University of Bristol, • University of Birmingham, • University of Glasgow	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)	**5**
SeaDataNet • (Oceanography) • BRITISH OCEANOGRAPHIC DATA CENTRE (BODC)	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.	**1**
SKA (Radioastronomy) • STFC	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, Germany, 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.	**55**

British research collaborations in EGI	EGI supported activities and services	Number of scientific papers published in 2023
Solidexperiment.org (High-Energy Physics) • University of Bristol • University of Oxford • STFC	The collaboration with EGI started back in 2017. The services from the EGI federation that the experiment uses include: • EGI HTC services from 2 EGI federated sites from BE 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)	**0**
SNO+ (High-Energy Physics) • Oxford University, • University of Liverpool • Kings' College • Lancaster University • Queen's University • Queens Mary • University of Sussex • University of Oxford • Norwich University	The Snoplus experiment has been using compute resources 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 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)	**1**

| British research collaborations in EGI	EGI supported activities and services	Number of scientific papers published in 2023
WeNMR (Structural Biology) • UNIVERSITY OF NOTTINGHAM • UNIVERSITY OF LIVERPOOL • ST ANDREWS UNIVERSITY • UNIVERSITY OF CAMBRIDGE • ASTON UNIVERSITY • University of Bristol • UNIVERSITY OF MANCHESTER • UNIVERSITY OF READING • UNIVERSITY OF YORK • Univ. of ROEHAMPTON • ANTIVERSE • UNIVERSITY OF OXFORD • UNIVERSITY OF SALFORD • NEWCASTLE UNIVERSITY • UNIVERISTY OF BIRMINGHAM • UNIVERSITY OF ESSEX • King's College London • IMPERIAL COLLEGE LONDON • UNIVERSITY OF LEEDS • UNIVERSITY OF ABERDEEN • + many others	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.	**136**

Service Level Agreements

During 2023, 100% IT supported 1 Service Level Agreement for international scientific communities via EGI, delivering Cloud Computing and Online Storage services.
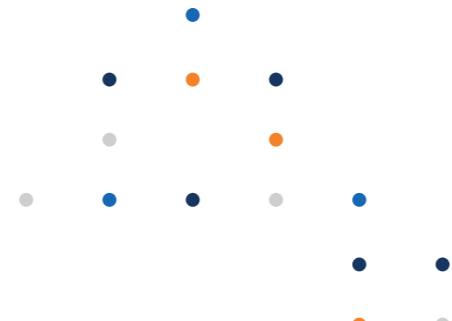
Participated projects

The EGI Foundation coordinated one Horizon 2020 projects, EGI ACE (January 2021–June 2023). Moreover, it leads two Horizon Europe Projects, iMagine (September 2022–December 2025) and interTwin (September 2022–August 2025).

Furthermore, the EGI Federation was involved in 8 additional projects, increasing the innovation potential of its participants.

The EGI Federation participates in Horizon 2020 and Horizon Europe projects together with British 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.
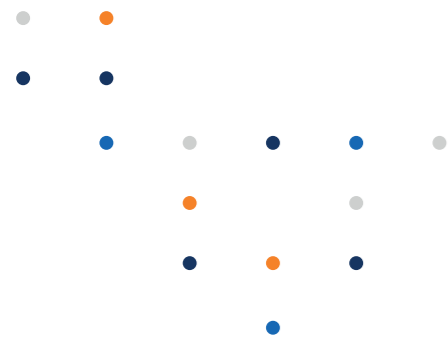
Project title	Scope of collaboration	Participating beneficiaries from the country
AI4PublicPolicy	EGI is involved in the activities around Cloud-based AI Tools for Citizen Centric & Autonomous Policy, in particular with the Dynamic provisioning of Cloud and HPC. Moreover, it leads the integration of Validated AI-based Applications and Tools, contributes to dissemination and communication, and leads the the business modelling and sustainability planning.	• Novoville Limited • Reportbrain Limited
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.	• NATIONAL OCEANOGRAPHY CENTRE
CRAFT-OA eosc	EGI coordinates the task dedicated to the Single Sign-On access with the EGI Check-in service.	• INFRASTRUCTURE SERVICES FOR OPEN ACCESS C I C
DIGITBRAIN	EGI leads the processes related to setup and operate of testbed infrastructure, the Edge/cloud/HPC orchestration, to secure resource access and user management. It also works on the commercial exploitation and sustainability plan and on dissemination activities..	• The University of Westminster Lbg • The University of Nottingham
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.	• INSTRUCT-ERIC • ESS ERIC

Project title	Scope of collaboration	Participating beneficiaries from the country
EOSC-Life	EGI contributes to EOSC-LIFE by supporting the creation and operation of a life science AAI (LS AAI) that is fully interoperable with the EOSC AAI.	• INSTRUCT-ERIC • University of Oxford • University of Dundee • University of Manchester • University of Cambridge
EOSC SYNERGY	EGI contributes to the project activities related to innovation management, policy development, and project activities and results communications and dissemination.	• JISC
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.	• King's College London
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.	• THE UNIVERSITY OF MANCHESTER • UKRI
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.	• ECWMF

Project title	Scope of collaboration	Participating beneficiaries from the country
LABPLAS	EGI works on the deployment and operation of a FAIR federated data repository, promoting enhanced exploitation of project outputs (data and results). It also provides expertise in order to formulate a strategy regarding data preservation. In particular, EGI will implement a DataHub and a Data preservation service for the project.	• National Oceanography Centre • Gouin Todd
PITHIA-NRF	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.	• The University Of Westminster Lbg
Policy Cloud	PolicyCLOUD aims at delivering an integrated cloud-based environment for data-driven policy management. EGI leads the activities on Cloud Infrastructures Utilization & Data Governance, collaborates to the Use cases Adaptation, Integration & Experimentation and to the project's communication and dissemination activities.	• Trust-It Services Limited • London Borough Of Camden
SoBigData	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	• The University Of Sheffield • King's College London
SoBigData PPP	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.	• KING'S COLLEGE LONDON • UNIVERSITY OF BRISTOL • THE UNIVERSITY OF SHEFFIELD

Project title	Scope of collaboration	Participating beneficiaries from the country
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.	• QUADIBLE LTD • THE UNIVERSITY OF MANCHESTER • UNIVERSITY OF GREENWICH
Triple	EGI is involved in the work ensuring the integration of the TRIPLE solution into the EOSC; also, it collaborates to the sustainability and innovation activities by setting up the processes to prepare maturity assessment and innovative agile management. Last but not least, it guides the implementation of the EGI AAI service in TRIPLE.	• The University Court Of Abertay University

Infrastructure contributions

The EGI Federation offers two complementary compute capabilities: the High-Throughput Compute (HTC) federation and the Cloud federation.18 British data centres contribute to these federations:

- RAL-LCG2 (Rutherford Appleton Laboratory)
- UKI-LT2-Brunel (Brunel University)
- UKI-LT2-IC-HEP (Blackett Lab, Physics Department, Imperial College London)
- UKI-LT2-QMUL (QMUL)
- UKI-LT2-RHUL (Royal Holloway College)
- UKI-NORTHGRID-LANCS-HEP (Lancaster University)
- UKI-NORTHGRID-LIV-HEP (The Liverpool University)
- UKI-NORTHGRID-MAN-HEP (University of Manchester)
- UKI-NORTHGRID-SHEF-HEP (University of Sheffield)
- UKI-SCOTGRID-DURHAM (Durham University Particle Physics - Institute for Particle Physics Phenomenology)
- UKI-SCOTGRID-ECDF (Edinburgh ECDF)
- UKI-SCOTGRID-GLASGOW (University of Glasgow)
- UKI-SOUTHGRID-BHAM-HEP (University of Birmingham)
- UKI-SOUTHGRID-BRIS-HEP (University of Bristol)
- UKI-SOUTHGRID-OX-HEP (University of Oxford)
- UKI-SOUTHGRID-RALPP (RAL Particle Physics Group, Oxfordshire)
- UKI-SOUTHGRID-SUSX (University of Sussex)

Cloud Federation:
- 100IT (100 Percent IT Ltd)

The data centres provided 99 service endpoints and delivered 1,236,119,090 CPUhours in total to EGI communities in 2023. The data centres responded to 436 support tickets through the EGI Helpdesk.

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

- ALICE 1.68%,
- ATLAS 43.9%,
- CMS 23.28%,
- FERMILAB 1.77%,
- LHCB 24.91%,
- NA62 0.99%
- PHENO 0.95%
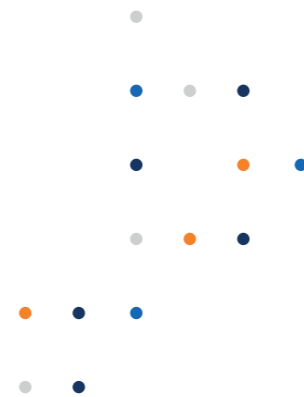
Methodology

Data for this impact report has been collected from the following sources.

- Infrastructure contributions, infrastructure usage by research communities: EGI Accounting System
- List of research publications by supported research communities (table 1)

AMS-02
https://ams02.space/publications

ILC
https://inspirehep.net/literature?sort=mostrecent&size=25&page=1&q=international%20Linear%20Collider%20&earliest_date=2021--2021
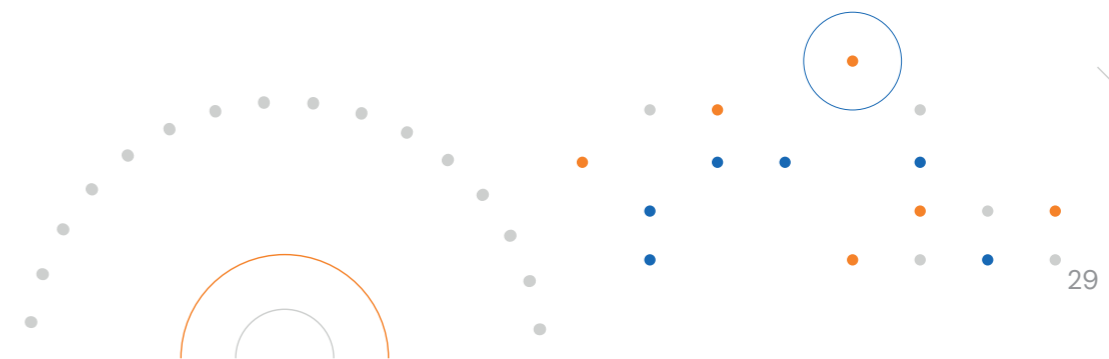
ALICE
https://alice-publications.web.cern.ch/publications

INSTRUCT
https://instruct-eric.eu/content/publications-list

ATLAS
https://cds.cern.ch/collection/ATLAS%20Papers?ln=en

JUNO
https://inspirehep.net/

AUGER
https://www.auger.org/science/publications/journal-articles

KM3NET
https://www.km3net.org/about-km3net/publications/pubblication/;
https://inspirehep.net/literature?q=collaboration:KM3NeT year:2021

BELLE
https://belle.kek.jp/belle/publications.html; https://inspirehep.net/literature?q=collaboration:belle year:2021

LifeWatch
https://www.lifewatch.eu/catalogue-of-virtual-labs/medobis/publications/

BIOMED
https://vip.creatis.insa-lyon.fr/documentation/

LOFAR
http://old.astron.nl/radio-observatory/lofar-science/
lofar-papers/lofar-papers; https://lofar-surveys.org/
publications.html, or https://ui.adsabs.harvard.edu/search/
q=full%3A(%22designed%20and%20constructed%20
by%20ASTRON%22)%20OR%20title%3A%22LOFAR%22%20
year%3A2021-2021%20property%3Arefereed%20
-bibstem%3A(%22AN%22%20OR%20%22MNRAS.
tmp%22)&sort=date%20desc%2C%20bibcode%20
desc&p_=0

CTA
https://www.cta-observatory.org/science/library/

LCHb
https://cds.cern.ch/collection/LHCb%20Papers?ln=en

CLARIN
https://beta.clarin.openaire.eu/search/advanced/research-out
comes?sortBy=resultdateofacceptance,descending&type=pu
blications&year=range2021:2021

LSST
https://ui.adsabs.harvard.edu/ with ~year:2021 author:("LSST*"
OR "Vera C. Rubin*") collection:astronomy property:refereed

CMS
http://cms-results.web.cern.ch/cms-results/public-results/
publications/CMS/index.html

NA62
https://cds.cern.ch/collection/NA62%20Papers?ln=en

DUNE
https://inspirehep.net/literature?q=collaboration:DUNE
year:2021

OPENCOASTS
http://opencoasts.lnec.pt/index_en.php

EISCAT_3D
https://eiscat.se/scientist/publications/

PANOSC
https://www.panosc.eu/publications/

ELI-BEAM
https://www.eli-beams.eu/publikace/

SeaDataNet
https://www.seadatanet.org/Publications/Scientific-
publications

ELI-NP
https://www.eli-np.ro/scientific_papers.php

SKA
https://ui.adsabs.harvard.edu/search/fq=%7B!type%3Daqp%20
v%3D%3D%24fq_database%7D&fq_database=database%3A%20
astronomy&q=pubdate%3A%5B2021-01%20TO%202021-
12%5D%20title%3A(SKA)&sort=date%20desc%2C%20
bibcode%20desc&p_=0

EMSO-ERIC
from the community representative; SLA https://documents.
egi.eu/document/3539

SNO+
https://snoplus.phy.queensu.ca/results/collaboration-papers.
html

FUSION
https://documents.egi.eu/public/ShowDocument?docid=3484

VIRGO
https://pnp.ligo.org/ppcomm/Papers.html

HESS
https://www.mpi-hd.mpg.de/hfm/HESS/pages/publications/

WeNMR
https://explore.openaire.eu/ –advanced search
–project outcomes. field to search –"project"
–enter project name; Citation of HADDOCK web
server: https://scholar.google.nl/scholar?hl=en&as_
sdt=2005&cites=10355645612647046441&scipsc=&as_
ylo=2021&as_yhi=2021; Citations of the
AMBER web portal publication: https://scholar.
google.com/scholar?as_ylo=2021&hl=en&as_
sdt=0,5&sciodt=0,5&cites=6696812766870837905&scipsc=;
Citations of the FANTEN web portal publication: https://
scholar.google.com/scholar?as_ylo=2021&hl=en&as_
sdt=0,5&sciodt=0,5&cites=10578718345045994565&scipsc=;
Citations of the DISVIS/POWERFIT web portals publication:
https://scholar.google.com/scholar?as_ylo=2021&hl=en&as_
sdt=2005&cites=6482114501244947208&scipsc='; Citations of
the SpotON web portal: https://scholar.google.com/scholar?as_
ylo=2021&hl=en&as_

Ice-Cube
https://icecube.wisc.edu/science/publications/

XENON
https://inspirehep.net/literature?q=collaboration:XENON
year:2021

National institutional members of supported research communities (table 2)

AMS-02
https://ams02.space/collaboration/institute

ILC
https://linearcollider.org/team/

ALICE
https://alice-collaboration.web.cern.ch/General/Members/List_Institutes.html

INSTRUCT
https://instruct-eric.eu/countries

ATLAS
https://atlas.cern/discover/collaboration

JUNO
https://juno.ihep.ac.cn/collaboration.php

AUGER
https://www.auger.org/collaboration/institutions, https://www.auger.org/collaboration/funding-agencies

KM3NET
https://www.km3net.org/about-km3net/collaboration/members/

BELLE
https://belle.kek.jp/bdocs/collaboration.html

LifeWatch
https://www.lifewatch.eu/organisation-governance/

BIOMED
https://vip.creatis.insa-lyon.fr/

LOFAR
https://www.astron.nl/telescopes/

CTA
https://www.cta-observatory.org/about/cta-consortium/

LCHb
https://lhcb-public.web.cern.ch/en/collaboration/Collaboration-en.html

CLARIN
https://www.clarin.eu/content/participating-consortia

LSST
https://www.lsstcorporation.org/international-contributors

CMS
https://cms.cern/collaboration/cms-institutes

NA62
https://greybook.cern.ch/experiment/detail?id=NA62

DUNE
https://lbnf-dune.fnal.gov/about/countries-and-institutions-participating-in-dune/

OPENCOASTS
http://opencoasts.lnec.pt/index_en.php

EISCAT_3D
https://eiscat.se/wp-content/uploads/2016/12/EISCAT-Organogram-202x.jpg; https://eiscat.se/scientist/document/information/

PANOSC
https://www.panosc.eu/partners/

ELI-BEAM
https://www.eli-beams.eu/about/cooperation/science/

SeaDataNet
https://www.seadatanet.org/About-us/SeaDataNet-AISBL/Members

ELI-NP
https://www.eli-np.ro/scientific_collaborations.php

SKA
https://www.skatelescope.org/participating-countries/

EMSO-ERIC
http://emso.eu/organization/

SNO+
https://snoplus.phy.queensu.ca/collaboration.html

FUSION
https://documents.egi.eu/public/ShowDocument?docid=3484

VIRGO
https://apps.virgo-gw.eu/vmd/public/institutions

HESS
https://www.mpi-hd.mpg.de/hfm/HESS/pages/collaboration/

WeNMR
https://documents.egi.eu/document/2751

Ice-Cube
https://icecube.wisc.edu/collaboration/institutions/

XENON
https://science.purdue.edu/xenon1t/?page_id=27

EGI Membership
Impact Report

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