



EGI Council Participant: ULAKBIM

Participating in EGI Impact Report

Türkiye_

www.egi.eu

2025

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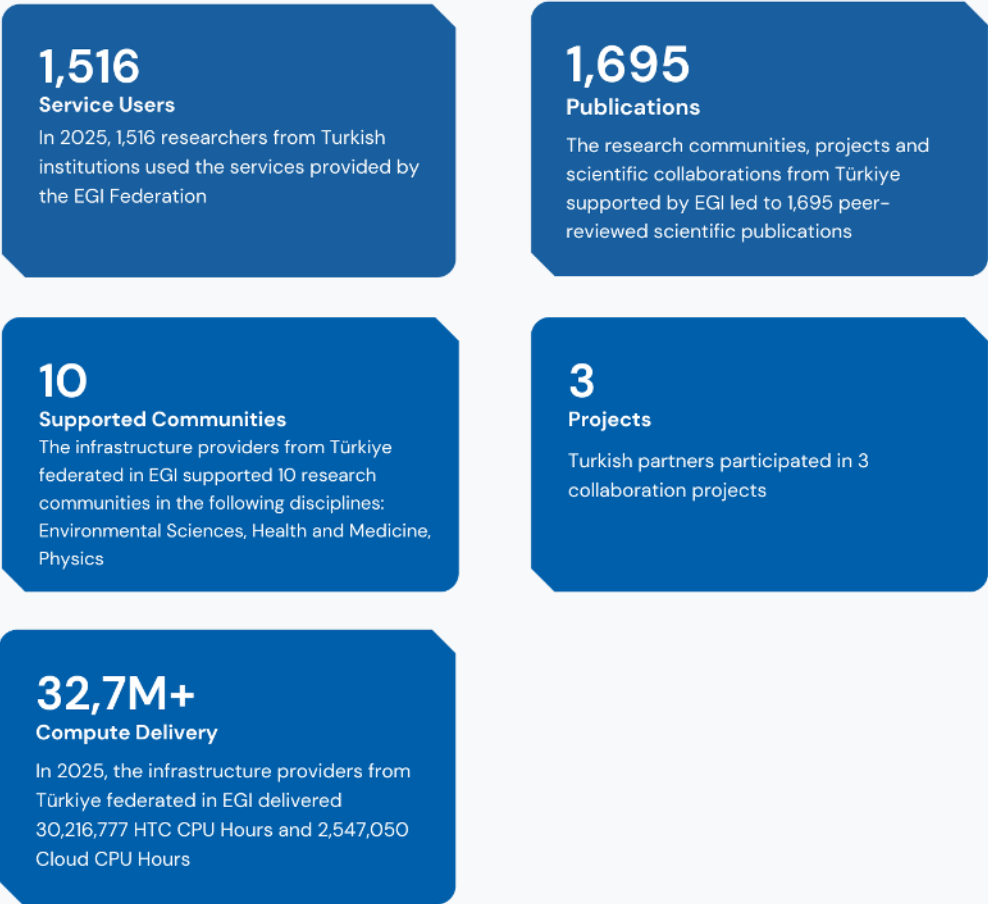
Overall EGI Impact

10

**EGI Contribution
to the Country
Excellence in
Science**

Infographic_

Türkiye_



Country Overview_

Number of supported publications	1,695
Number of total service users	1,516
Scientific Communities supported	10
Data Centres contributing to the Federation	3
Collaboration projects	3
Total HTC CPU hours	30,216,777
Total Cloud CPU hours	2,547,050

About EGI_

EGI is a federation of providers delivering advanced computing, data, and digital services for research and innovation, while driving collaborative development and impact across scientific communities.

The EGI Federation brings together national and international service providers to deliver the computing and data services that research teams rely on across Europe. Working as a coordinated federation, EGI enables research communities to access advanced capabilities in computing, data analytics, and artificial intelligence, while also supporting research and development that pushes the frontiers of digital innovation for science.

Through this collaborative model, EGI helps its members transform emerging technologies and approaches, such as big data, cloud computing, artificial intelligence, digital twins, and FAIR data, into reliable, environmentally and financially sustainable services for research and education. These services are designed to ensure continuity and stability beyond individual projects, enabling scientific communities

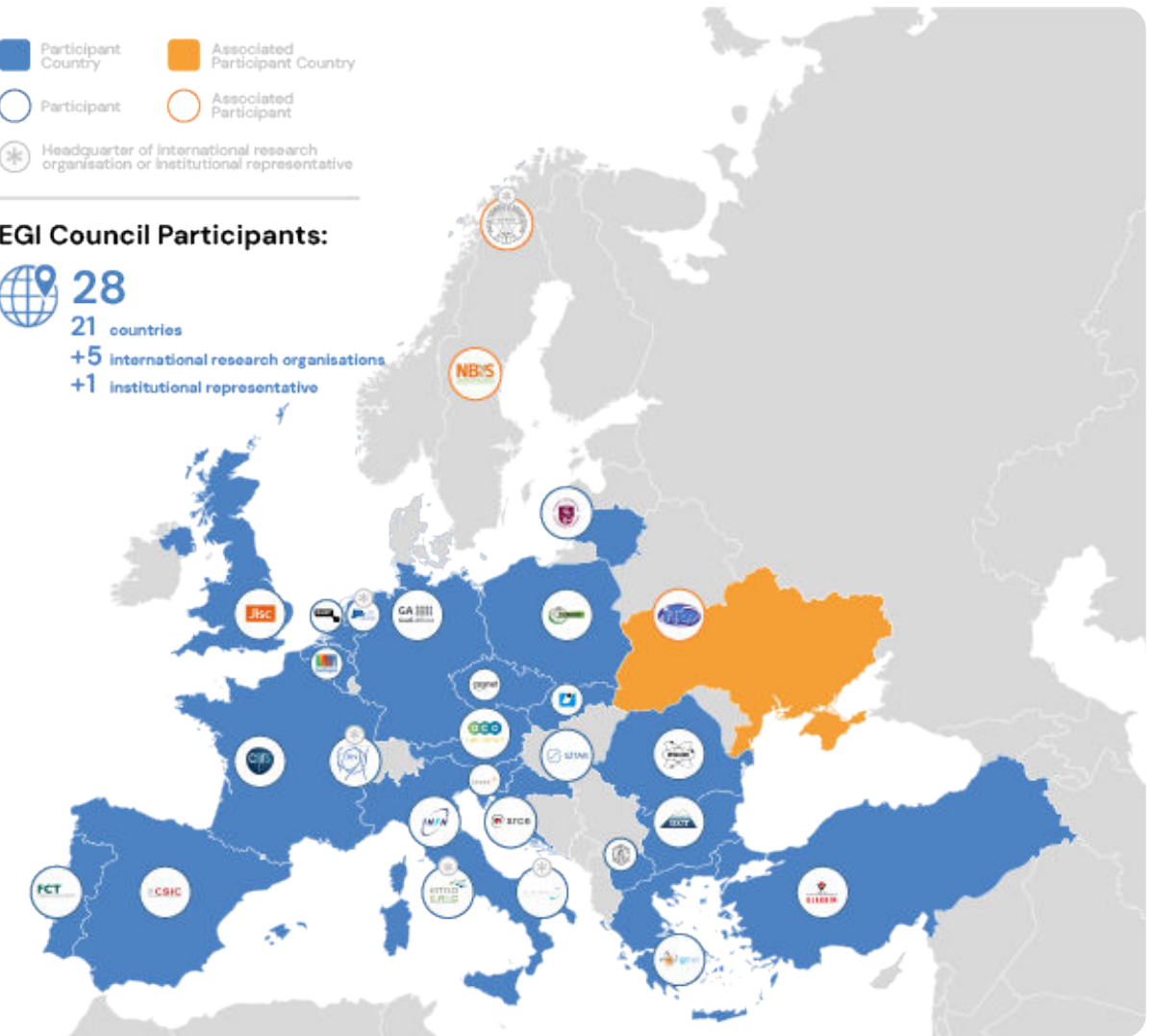
across disciplines, countries, and funding cycles to benefit from ongoing digital innovation. At the same time, the federated infrastructure and its associated R&D activities generate impact across all fields of science, from physics to the humanities, fostering new discoveries and novel research approaches.

Coordinated by the EGI Foundation, the Federation operates through a shared IT platform that connects hundreds of providers with research groups across Europe and beyond. By aligning and aggregating national capacities with European and global priorities, EGI ensures that researchers can seamlessly access digital resources and expert support. Together, EGI and its members establish a strong and lasting foundation for open, collaborative, and data-intensive science, strengthening Europe's capacity for research and innovation.



EGI Council Participants:

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



Council Participant ULAKBIM_

About ULAKBIM

Established in 1963, TUBITAK is the leading agency for the implementation of the R&D activities in Türkiye in line with the policies formulated by the Presidential Council for Science. More than 5000 researchers work in 20 different research institutes of TUBITAK where contracted research as well as targeted and nation-wide research is conducted. These research institutes cover a wide span of basic and applied research activities ranging from natural sciences, life sciences to various branches of engineering. Furthermore, TUBITAK conducts research on strategic areas, develops support programs for public and private sectors, publishes scientific journals, popular science magazines and books, organises science and society activities and supports undergraduate and graduate students through scholarships. Additionally, TUBITAK serves as the national agency for the provision of services in high performance computing as well as connectivity, network management and storage in order to address the needs of the Turkish Research Area through ULAKBIM. ULAKBIM was founded as an Institute of TUBITAK in 1996. ULAKBIM's main objectives have been set as operating a high speed computer network enabling interaction within the institutional elements of the national innovation system, and providing information technology support and information services to help scientific production. TUBITAK ULAKBIM High Performance

and Grid Computing Centre is a national centre providing high performance computing and data storage services to academia and industry. This centre is referred to as the Turkish Science e-Infrastructure (TRUBA). The expanding and reinforcement of computing and data storage resources needed for our researchers to compete with their colleagues in the national and international levels is carried out by the recommendations of the Turkish Science e-Infrastructure Advisory Board. Operating under the R&D institute ULAKBIM, TRUBA provides services such as high-performance, data-intensive computing, scientific data warehouses and cloud computing. TRUBA, which has more than 3900 researchers from 190 different universities, provides direct service to contribute to scientific studies, carries out joint projects with different public institutions and research institutes and took part in 20 European Union Framework Program Projects since its establishment, is an e-Infrastructure of strategic importance in the national sense. ULAKBIM has 18 years of experience in operating HPC and HTC, also 15 years of experience in operating Cloud Computing systems. With the current capabilities, ULAKBIM had already initiated preparations of building the framework of an e-Science Centre that should provide this expertise to national researchers.

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 2025, the EGI Federation served around 150,000 users (+29%). EGI users consumed 8 Billion HTC CPU hours (+8%), 43 Million Cloud CPU hours (-19%), ran over 351 Million computational jobs (-12%) and published over 2,300 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 2025, the one with most extensive Cloud CPU/h consumption is WeNMR.

Moreover, EGI engaged with 219 scientific communities, including SMEs and business pilots, and 41 Research Infrastructures

EGI Contribution to Excellence in Science in the Türkiye

TÜBİTAK – ULAKBİM coordinates the Turkish participation in the EGI Federation. TÜBİTAK – ULAKBİM promotes the building and operation of a multidisciplinary national Distributed Computing Infrastructure open to all sciences and to developing countries in Türkiye. This report provides an overview of the activities of TÜBİTAK – ULAKBİM in EGI, and the impact that was achieved thanks to this participation. The annual membership fee contributed by TÜBİTAK – ULAKBİM to the EGI Foundation in 2025 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 2025, our federation has been accessed by over 150,000 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 1,516 researchers from Türkiye over the year. The estimated annual scientific output produced by research communities, projects and scientific collaborations from Türkiye and supported by the EGI Federation in 2025 is estimated to amount to over 1,695 peer reviewed scientific publications. The EGI Federation is currently working with almost 50 Research Infrastructures, 10 of which include Turkish partners. These EGI-enabled research infrastructures, their Turkish members and their scientific output (publications) are detailed in the following pages of the report.

Turkish Research Collaborations in EGI

AMS-02 (Particle Physics)

- METU, Middle East Technical University

EGI Supported Activities and Services

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)

3 SCIENTIFIC PAPER(S) PUBLISHED IN 2025

Turkish Research Collaborations in EGI

ALICE (High Energy Physics)

- Yildiz Technical University
- Karatay University

EGI Supported Activities and Services

ALICE has been supported since 2012 as part of the EGI – WLCG collaboration. Federated services delivered include:

- **Software support**
- **Infrastructure and Operations Services** (infrastructure

- catalogue, **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 SCIENTIFIC PAPER(S) PUBLISHED IN 2025

Turkish Research Collaborations in EGI

ATLAS (High Energy Physics)

- Ankara University
- Istanbul Aydin University
- TOBB University of Economics and Technology

EGI Supported Activities and Services

ATLAS has been supported since 2012 as part of the EGI – WLCG collaboration. Federated services delivered include:

- **Software support**
- **Infrastructure and Operations Services** (infrastructure

- catalogue, **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)

74 SCIENTIFIC PAPER(S) PUBLISHED IN 2025

Turkish Research Collaborations in EGI

BELLE (High Energy Physics)

- Middle East Technical University

EGI Supported Activities and Services

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)

56 SCIENTIFIC PAPER(S) PUBLISHED IN 2025

Turkish Research Collaborations in EGI CMS (High Energy Physics) - Istanbul Technical University - Istanbul University - Bogazici University - Middle East Technical University - Çukurova University	EGI Supported Activities and Services CMS has been supported since 2012 as part of the EGI – WLCG collaboration. EGI Federated services delivered include: 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)	135 SCIENTIFIC PAPER(S) PUBLISHED IN 2025
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Turkish Research Collaborations in EGI DUNE (Astroparticle Physics) - Beykent University - Antalya Bilim University	EGI Supported Activities and Services The DUNE experiment has been using compute resources from EGI partners for more than a decade. The services from the EGI federation that DUNE uses include: EGI HTC services from 6 EGI participant countries (CH, CZ, ES, FR, NL, UK)	- Software distribution services (UMC, CMD, operations documentation) - Operations coordination (middleware deployment campaigns, procedures, innovation of tools) - Security services and activities (CSIRT, Software vulnerability group, international security coordination, policies, IGTF distribution)	41 SCIENTIFIC PAPER(S) PUBLISHED IN 2025
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Turkish Research Collaborations in EGI ELI-NP (Nuclear Physics) - Akdeniz University - Selcuk University - Karamanoglu Mehmetbey University	EGI Supported Activities And Services ELI works 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.	90 SCIENTIFIC PAPER(S) PUBLISHED IN 2025
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Turkish Research Collaborations in EGI ILC (High Energy Physics) - Ankara Universitesi - Middle East Technical University - Ege University	EGI Supported Activities And Services 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,	50 SCIENTIFIC PAPER(S) PUBLISHED IN 2025
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Turkish Research Collaborations in EGI SeaDataNet (Oceanography) Middle East Technical University	EGI Supported Activities And Services Since 2021, the SeaDataNet community is represented in the EGI Council by MARIS. The SeaDataNet community is consuming cloud compute resources through EGI from the INFN-Bari	site (Italy) since early 2022. The cloud compute delivery is secured with an EGI Service Level Agreement for SeaDataNet since November 2023	0 SCIENTIFIC PAPER(S) PUBLISHED IN 2025
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Turkish Research Collaborations in EGI WeNMR (Structural Biology) - Dokuz Eylul University - Ege University - Istanbul Technical University - Acibadem University - Suleyman Demirel University - Istinye University - Izmir Biomedicine and	Genome Center - Marmara University - Mugla University - Pamukkale University - and many others	EGI Supported Activities and Services ThWeNMR 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 NL, IT, FR, DE, PL, UK, the Asia Pacific region, IberGrid (Spain and Portugal), the Latin America region. - EGI Workload Manager - Trust and identity management with Check-in	10 SCIENTIFIC PAPER(S) PUBLISHED IN 2025
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Service Level Agreements_

During 2025, TR-FC1-ULAKBIM supported 5 Service Level Agreements for international scientific communities via EGI, delivering Cloud Computing and Online Storage services.

Participated Projects_

In the reference period, the EGI Foundation was leading seven Horizon Europe Projects, two of which started in 2025:

- iMagine (September 2022–December 2025)
- interTwin (September 2022–August 2025)
- ENVRI-Hub NEXT (February 2024–January 2027)
- EOSC Beyond (April 2024–March 2027)
- EOSC Data Commons (April 2025–March 2028)
- RI-SCALE (March 2025–February 2028)

- SPECTRUM (January 2024–June 2026)

Furthermore, the EGI Federation was involved in 6 additional projects, increasing the innovation potential of its participants.

The EGI Federation participates in Horizon 2020 and Horizon Europe projects together with Dutch institutions to facilitate the uptake and use of e-infrastructure services for science. A summary of these projects, the involved institutes and the scope of the collaboration is provided in the next table.



interTwin



Project Title	Scope of Collaboration	Participating beneficiaries from the country
	EGI contributes to developing an innovative, workflow-based Gateway connecting European scientists to computing and storage infrastructures, advancing operational FAIR data services within EOSC.	TÜBİTAK ULAKBİM
Project Title	Scope of Collaboration	Participating beneficiaries from the country
	EGI contributes research expertise to defining requirements, metrics, specifications, and validation pilots for assessing thematic services and platforms.	TÜBİTAK ULAKBİM
Project Title	Scope of Collaboration	Participating beneficiaries from the country
	EGI advances stakeholder engagement and alignment while leading IT security management and software vulnerability assessment for the UNCAN.eu platform's federated infrastructure. It contributes to infrastructure federation,	decentralised health research environments, and impact assessment guidelines. SRDC

Infrastructure Contributions

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

HTC Federation:

- TR-O3-METU (METU)
- TR-IO-ULAKBIM (ULAKBIM)

Cloud Federation:

- TR-FC1-ULAKBIM (TUBITAK ULAKBIM)

The data centres provided 3 service endpoints and delivered 30,216,777 CPUhours and 2,547,050 Cloud CPUhours in total to EGI communities over the year. With the help of the EGI Security Vulnerability Group,

the Turkish sites avoided 49 critical vulnerabilities in foundational software systems during the year.

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

- ATLAS 80.27%
- CMS 18.17%
- BELLE 1.54%

egi.eu

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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 2025, there were 196 VOs in EGI. EGI Virtual Organisations (VOs) can rely on different technical and non-technical mechanisms to manage

their own members. Depending on their choice, the EGI Federation coordinator (EGI Foundation) has to follow different, corresponding approaches to know the number of members in a given VO, and to obtain additional information about these members (e.g. their 'country'). The EGI Foundation uses the following mechanisms to obtain information about the VO users:

- Obtain user number statistics from the EGI Operations Portal for VOs, where the members register personally in a 'VO membership management' system that is either operated by EGI or can be accessed by EGI.
- Obtain user number statistics from Community VRE REST APIs for VOs that operate Virtual Research Environments (VREs) on top of EGI resources. Those VREs implement a specific API to report users (e.g., WeNMR, Virtual Imaging Platform (VIP), NBIS).
- Obtain user number statistics from interviews with VO coordinators for VOs coordinated by one person.

Publications

Publications are collected from each community's public repository, if existing. Additional details are checked with the VO coordinators during the interviews to complement this information. EGI also consults OpenAIRE services to countercheck the data. You can check the list of repositories for each VO here (requires login): <https://operations-portal.egi.eu/vo/#collapseVoListOther>.

Institutional members supporting research communities

EGI relies on the information on each community's website to list institutions supporting research communities at the national level. Additionally, EGI appreciates the feedback from its national representatives to refine and improve those lists.



EGI Membership Impact Report

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