



*By making high-quality facilities,
resources and services available to everyone,
research infrastructures ensure that science is driven by excellence
and not by the research capacity of
individual countries, economic sectors, or institutions*
Rita Costa Abecasis and Barbara Pintar

EPOS - European Plate Observing System

The European Research Infrastructure for solid Earth science

Lilli Freda
Executive Director

European Research Infrastructures

Research Infrastructures are facilities that provide resources and services for research communities

to conduct research and foster innovation

European Commission definition

- **Many forms**

- from single-sited, tangible laboratories (e.g., CERN)
- to distributed, knowledge-based ecosystems (e.g., EPOS)

- **What they all have in common?**

- enable excellent science and innovation
- bring together countries and communities and integrate expertise
- create long-term value that no single institution or country could achieve alone



European Research Infrastructures

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European Commission definition



They are now recognised as **strategic assets for European competitiveness**

(M. Draghi, E. Letta, M. Heitor, U. von der Leyen, E. Zaharieva)

In an increasingly fragmented and competitive world,

Research Infrastructures can play a pivotal role in unifying the scenario and help Europe remain connected, coordinated and scientifically strong

From data to knowledge

Understanding how the Earth works is crucial

- increase resilience to natural and anthropogenic hazards
- exploit geo-resources while protecting the environment
- support society in addressing today's challenges

Solid Earth science provides the knowledge needed to understand the processes that trigger and control natural phenomena

The answers lie in petabytes of multidisciplinary data generated across different countries and scientific domains

The challenge is no longer collecting data

The **challenge is connecting data to generate knowledge**
Transform fragmented and heterogeneous datasets into open, integrated knowledge that can **support excellent science and informed decision-making**



The EPOS mission

To provide sustainable and long-term access to solid Earth science data by integrating research organizations under a common federated framework



767 Data and Service Providers
172 Research Organisations
26 European Countries
10+ Scientific Domains
5 International Organizations
(ORFEUS, EMSC, EGS, ESA, EUREF)

The only European Research Infrastructure
dedicated to **solid Earth science**

Brings together countries and aggregates research communities
around the paradigm of **Open Science**

Integrates scientific data generated across Europe, making them
openly accessible

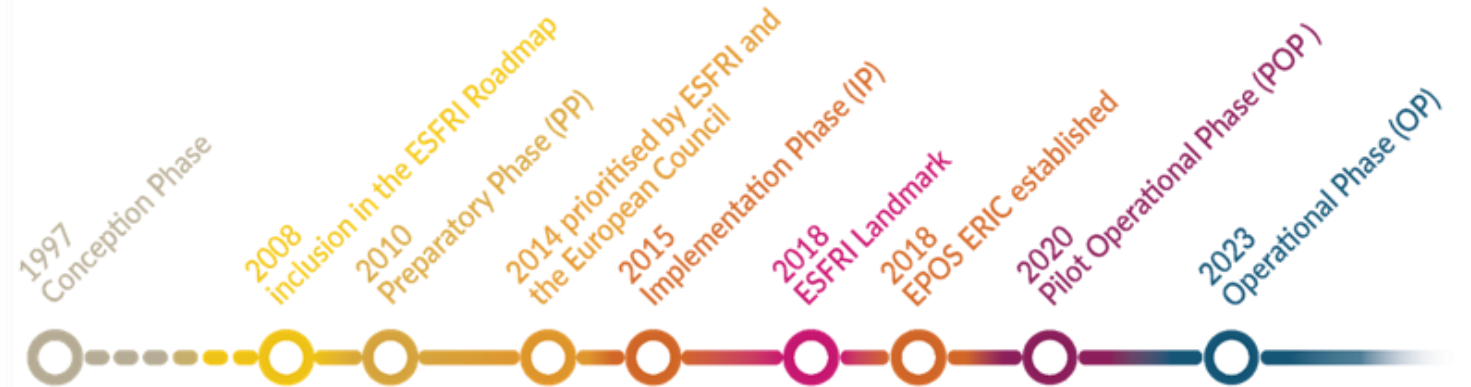
Enables **excellent science and innovation** in the Geosphere domain

Supports scientists in developing tools to
address societal challenges

EPOS is the reference infrastructure for the
European solid Earth science community

Achieving this required a long-term vision, trust, and commitment

Three decades of collaboration

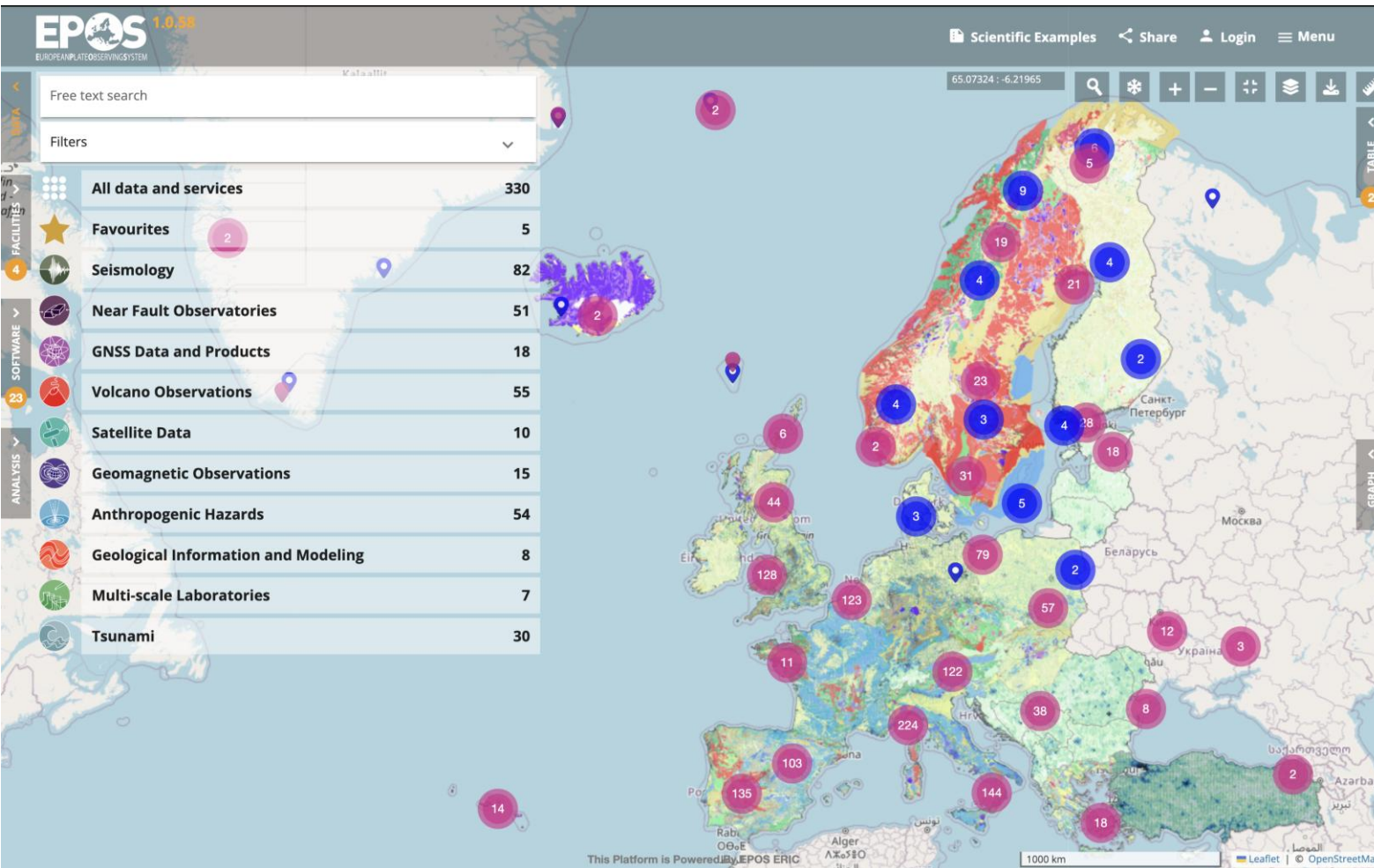


**Since October 2018 EPOS is operated as an ERIC
Hosted in Italy | 18 Members | 1 Observer**

The ERIC provides long-term governance and sustainability to EPOS

EPOS Multi-domain Platform

The visible outcome of more than 20 years of collaboration across disciplines and countries
It provides open, integrated access to quality-controlled data from 10+ diverse disciplines



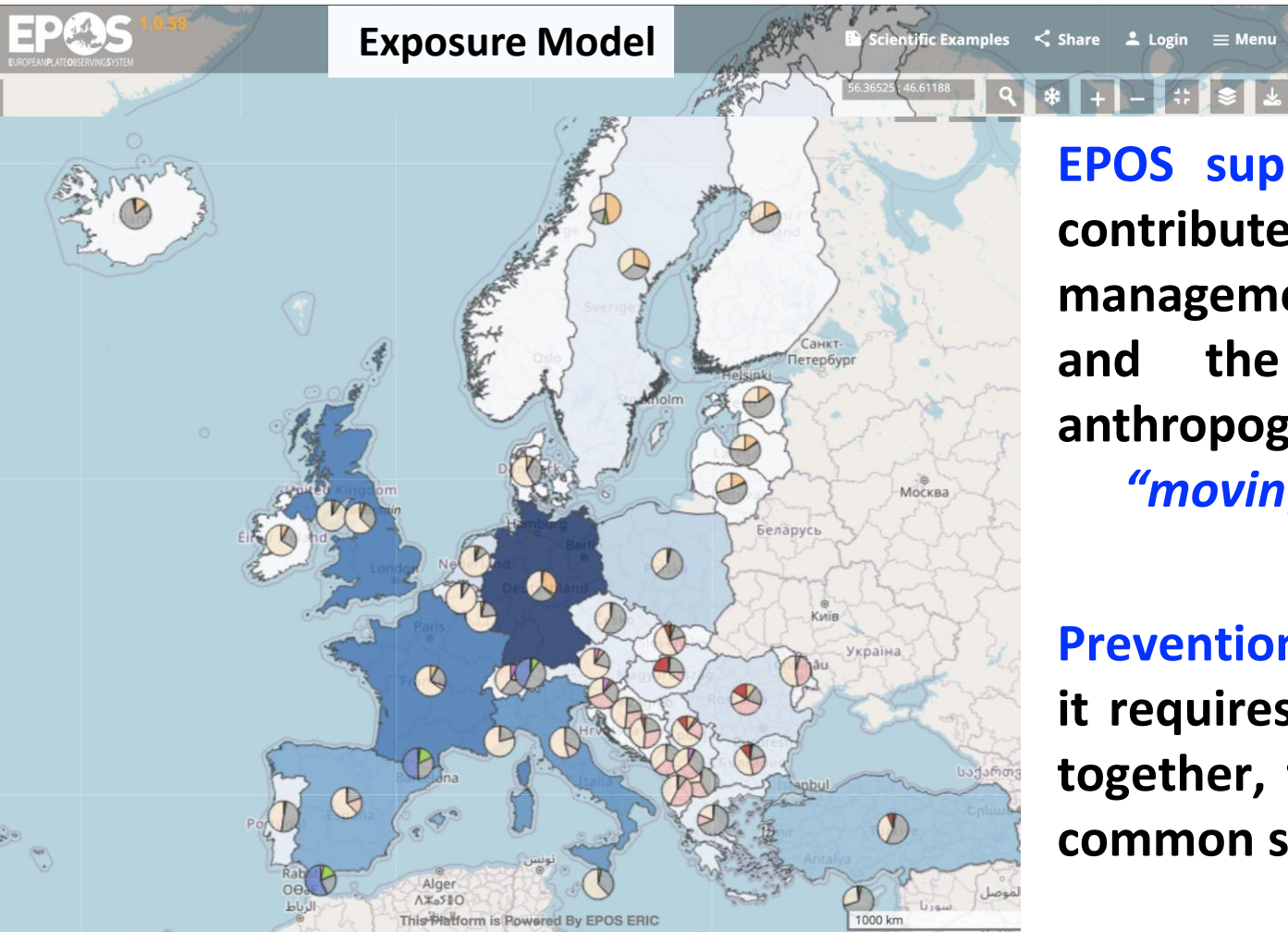
Global access to the EPOS Platform



**42,386 visitors from 132 Countries ...
... and growing (updated: 06/08/2026)**

**EPOS is not only a Platform:
it is a community-driven
European endeavour**

Science for society



EPOS supports scientists in developing tools to contribute to disaster risk reduction, sustainable management of geo-resources, land-use planning, and the understanding of natural and anthropogenic hazards

“moving from culture of reaction to culture of prevention”

Prevention is not simply integrating data: it requires scientists and decision-makers to work together, to share data and expertise, to develop common standards, to build trust

The Platform is the visible outcome of a much broader collaborative effort that transforms scientific data into knowledge benefiting both science and society

Communities at the hearth of EPOS



EPOS is built around communities

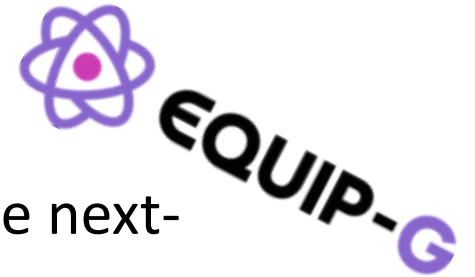
10+ solid Earth science domains are harmonized across EPOS into the **Thematic Core Services** each one established as a Consortium **with its own governance and expertise**

Communities **retain ownership of their knowledge and assets** while benefiting from a European framework

Communities gain visibility, reach critical mass and play a stronger role in shaping European research, innovation, and solutions to societal challenges

EPOS and the Gravimetry Community

EQUIP-G Project (01/06/25-31/05/29)



- **Deploying a European network of quantum gravimeters** to advance next-generation gravimetric observations.
- **Supporting key EU priorities**, including the European Green Deal, energy management and risk mitigation.
- **FAIR data by design**: data will be managed according to FAIR principles from the very beginning of the project.
- **Towards EPOS integration**: the data and services developed by EQUIP-G will be designed with the perspective of future integration into the EPOS infrastructure.

**Fostering an open dialogue with the European Gravimetry Community
and engaging it in the development of EPOS**

A multidimensional architecture

National organizations are the foundation of EPOS: they support data generation, stewardship and scientific expertise. **European projects and EPOS ERIC** complement these efforts by enabling integration, interoperability and innovation.

Scientific communities, organised as Thematic Core Services, ensure the long-term provision of multidisciplinary, high-quality and standardised data and services.

The **ERIC** provides the common governance and federated framework that connects all actors into a single Research Infrastructure

This architecture combines national ownership with European coordination

Expertise and data remain where they are generated, while becoming discoverable, interoperable and accessible through a common European framework

**Countries do not lose ownership of their assets
They increase visibility, strengthen collaboration and
enhance the long-term sustainability of their investments**

Towards a global solid Earth science ecosystem

Today's societal challenges are global, and addressing them requires global scientific collaboration

EPOS is building strong partnerships with sister Research Infrastructures



Europe



USA



Australia



New Zealand



The ambition is to build a globally federated research infrastructure to strengthen global scientific collaboration

EPOS is contributing to a globally connected solid Earth science ecosystem, where expertise and data flow across borders to address challenges that transcend borders and no country can tackle alone

The added value of being part of EPOS

Connect • Share • Collaborate • Impact

- ❖ **Join the European Solid Earth science ecosystem**
- ❖ **Make data more visible, accessible and impactful**
- ❖ **Strengthen communities and reduce fragmentation**
- ❖ **Unlock new European and international collaborations**
- ❖ **Contribute to a global network of scientific cooperation**
- ❖ **Shape a common European response to scientific and societal challenges**

To conclude

A common challenge

Europe needs integrated solid Earth science
to address increasingly complex scientific and societal challenges

A common response

EPOS provides the long-term European framework
connecting countries, communities, expertise, data, services

A common ambition

Transforming data into knowledge,
knowledge into action,
collaboration into lasting societal impact



Thank You!



How to get involved in EPOS

Are you a Researcher, Student, Teacher, Industry User, ?

- The Platform <https://www.epos-eu.org/dataportal> is open and free for you to use
- Register for a better experience and, please, don't forget to mention EPOS in your publications

Are you a (Research) Organisation, ERIC, International Initiative, ...?

- Go to <https://www.epos-eu.org/tcs>, browse the existing Thematic Core Services (TCS) and contact the TCS that better fit with your research interests
- If you're from a community not yet involved in EPOS but would benefit from the infrastructure, contact us at info@epos-eric.eu