

EPOS ERIC

European Plate Observing System European Research Infrastructure Consortium



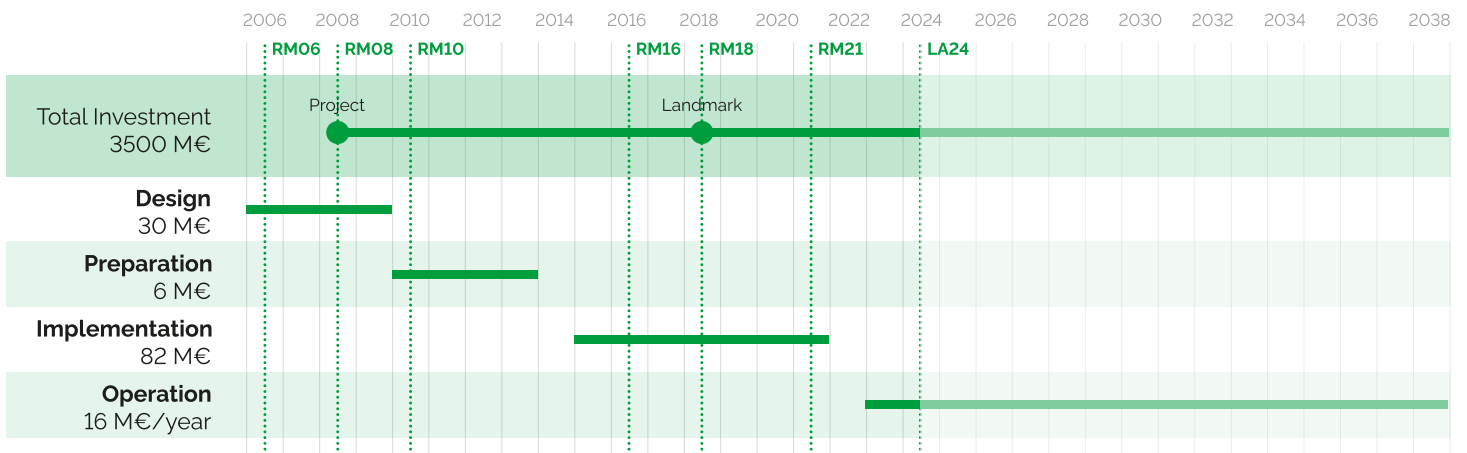
Website	Headquarters	Legal Status	Type	Access
https://www.epos-eu.org/	Istituto Nazionale di Geofisica e Vulcanologia - INGV via di Vigna Murata 605 - 00143 Rome, Italy	Established (ERIC, AISBL, GmbH, Others)	distributed	virtual

DESCRIPTION

The European Plate Observing System (EPOS, www.epos-eu.org) has been meticulously designed and established as the only European Research Infrastructure dedicated to solid Earth science. EPOS aims to address the prevailing fragmentation and to ensure seamless coordination of efforts and priorities among European nations. Its mission is to provide sustainable, long-term, and open access to solid Earth science data and services integrating diverse European Research Infrastructures under a federated framework. The harmonized integration of solid Earth science data is crucial for developing new concepts and tools for enabling excellent science, a precursor for contributing to current societal needs connected to the Earth system. Aggregated data, made open and universally accessible, is key for conducting trans-disciplinary studies to address societal challenges like sustainable use of resources, climate change, and clean energy transition. The EPOS Science Program, included in the EPOS ERIC Strategy 2024-2028, foresees the following strategic objectives: Ensuring smooth and seamless access to solid Earth science data and services; Enhancing and advancing services for solid Earth science; Enlarging, widening and empowering the user community; Implementing principles of Open Science and FAIR data management, and contributing to e-science innovation; Amplifying and spreading the societal value of EPOS; Boosting global cooperation. EPOS is a distributed Research Infrastructure that integrates and ensures

usability of multidisciplinary solid Earth science data and services belonging to diverse scientific communities (currently, Seismology, Near-Fault Observatories, GNSS Data and Products, Volcano Observations, Satellite Data Products, Geomagnetic Observations, Anthropogenic Hazards, Geological Data and Modelling, Multi-Scale Laboratories, Tsunami) and generated by over 250 national research infrastructures from 26 European countries. On October the 30th 2018, the European Commission granted the legal status of ERIC to EPOS. Today, EPOS ERIC has 19 members (Austria, Belgium, Bulgaria, Croatia, Denmark, France, Italy, Greece, Iceland, Norway, Poland, Portugal, Romania, Slovenia, Spain, Sweden, Switzerland, The Netherlands, the United Kingdom) and one observer (Germany). EPOS offers a multidisciplinary research platform that provides open access to harmonized and integrated scientific data and products, all anchored in the FAIR principles. Main users of EPOS Research Infrastructure are scientists, in solid Earth science and other environmental disciplines, IT experts, and concerned governments. Originally designed to meet the needs of these reference communities, it matured into a fully-fledged infrastructure facing the challenge of expanding its user base numerically and diversifying its users. Current plans involve integrating additional scientific communities, non-academic audiences, and society at large.

TIMELINE & ESTIMATED COSTS





POLITICAL SUPPORT

Lead

IT

Member

AT, BE, BG, CH, DK, ES, FR, GR, HR, IS, NL, NO, PL, PT, RO, SE, SI, UK

Observer

DE



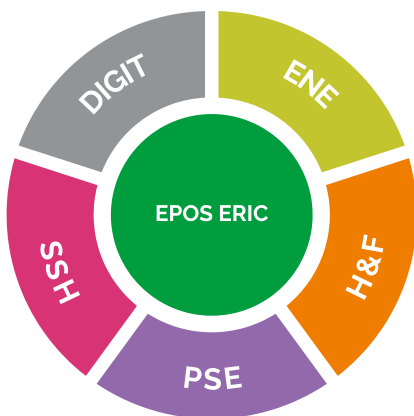
IMPACTS

Understanding how the Earth works as an interconnected system is crucial for society in the face of natural hazards and the management of natural resources. EPOS brings together hundreds of European and international research organizations under a federated framework, facilitating collaboration among scientists, national research infrastructures, IT experts, and decision-makers. By bringing together many diverse disciplines such as geology, seismology, geodesy, volcanology, geomagnetism as well as chemistry and physics, EPOS is facilitating access to high-quality data and services provided reliably and continuously to enable scientific excellence and with that helping finding answers on how to maintain the Earth a safe, prosperous, and habitable planet. Furthermore, in light of the digital transformation the impact of EPOS is evident. For example, the integration and federation at European level achieved by EPOS is bringing impactful benefits for the end user. It is this knowledge build-up and generation by "doing" that is having a long-lasting impact which will be important to take the next steps to arrive to a globally integrated dataspace based on horizontal cross-cutting technologies.

SERVICES

EPOS RI offers a comprehensive range of services including: i. Community Building: currently 10 Thematic Core Services, Seismology, Near-Fault Observatories, GNSS Data and Products, Volcano Observations, Satellite Data Products, Geomagnetic Observations, Anthropogenic Hazards, Geological Information and Modelling, Multi-Scale Laboratories, Tsunami, integrate more than 250 research organizations from 26 countries in Europe. ii. Virtual Access: the EPOS Data Portal is a one-stop shop for users worldwide, to discover and access interoperable solid Earth science data, data products, services, and software for scientific research. Data are open and freely accessible. iii. Provision of interactive virtual research environments for data analysis, processing and visualization tailored to the user needs. iv. Data Portal Open Source Code, released under a GPL3 license is already taken as a reference by other research infrastructures: ENVRI, EOSC, JERICO. v. Contribution to Open Science policies, e.g., Data Policy, Digital Assets Management Policy, EOSC, Data Spaces. Sharing solutions and practices for sustainable Research Data Management. vi. Contribution to European Flagship Destination Earth through participation in the DT-GEO HEU Project, a Digital Twin for Geophysical extremes. EPOS is involved in activities concerning workflows and data architecture, enabling data management plans and exploitation in the EOSC framework. vii. Training activities targeting different user groups contributing to enlarge, widen and empower the user community, fostering the multi-disciplinary and cross-disciplinary usage to engage early career scientists and students.

INTERCONNECTIONS



COOPERATION WITH OTHER RIS

EPOS RI established cooperation with i. ERIC Forum, for exchanging good practices and reinforcing the ERIC landscape. ii. ENVRI, for providing the key technologies to build the ENVRI Catalogue of services and served as a blueprint for the development of data access policies. Additionally, EPOS participates in the Board of European Environmental RI. iii. CERIC-ERIC, for exchanging good practices, procedures, and policies. vi. ECCSEL ERIC, for exchanging information and data, and sharing IT solutions for FAIR data management. v. JERICO, for promoting interoperability of data and services across their respective disciplines of solid Earth and coastal oceans, fostering cross-disciplinary access to and use of scientific data. vi. EuroGeoSurveys for cooperating on: a. exchanging information and data, sharing solutions and IT innovations, b. fostering user strategies and solutions to address users' requirements, c. working towards the adoption of common standards to facilitate sharing of scientific products. vii. AuScope and EarthScope for cooperating on integration and sharing of data, scientific information and products to jointly contribute to addressing the global challenge of open science and to serve the interests of all potential users to the widest possible extent.