

A DISTRIBUTED RESEARCH INFRASTRUCTURE WITH CENTRAL SERVICES

eLTER RI will comprise National Research Infrastructures (NRIs) and European level Central Services.

National Research Infrastructures (NRI)

Partner countries provide the national in-situ building blocks (eLTER Sites and eLTER Platforms). Distributed site-operations will be concerted (instrumentation, observation variables) and follow standards (protocols, data flows). Sites and platforms will be open for research and education via a common access scheme.

Central Services

A range of services will make eLTER RI much more than the sum of its national networks. Service providers will comprise the Head Office (coordination, outreach, strategic development & collaborations, operation of central Service Portal) and Topic Centres. Collectively, the Topic Centres will cover Thematic Service Areas like data management, interoperability, data analysis & modelling, technological innovation, and synthesis of actionable knowledge.

SUPPORTING PROJECTS

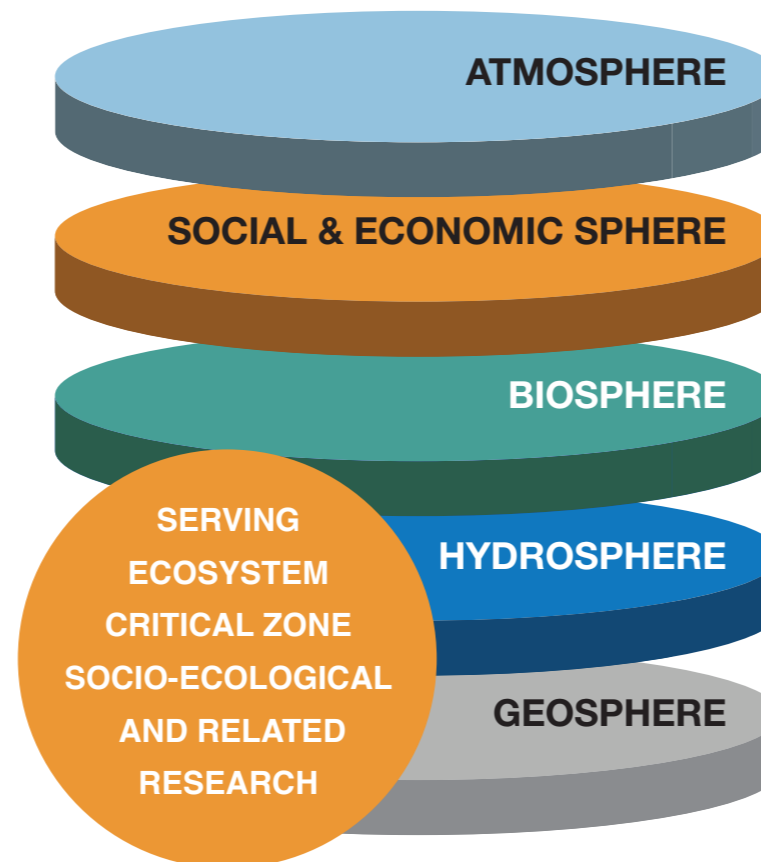
Since 2020, the provision, testing and development of the eLTER RI has been supported by two EU-funded 5-year projects involving 27 countries: **eLTER PLUS** is testing the performance of existing components through scientific case studies and is identifying the needs of a wide range of scientific and other user groups (Coordinator: Jaana Bäck, UHEL/Finland). **eLTER PPP**, the eLTER RI Preparatory Phase Project is facilitating the formalisation of eLTER RI as an ERIC (Coordinator: Michael Mirtl, UFZ/Germany).



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Images courtesy of LTER-Europe members

The information in this brochure is valid for 2022



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**INTEGRATED EUROPEAN
LONG-TERM ECOSYSTEM,
CRITICAL ZONE AND SOCIO-ECOLOGICAL
RESEARCH INFRASTRUCTURE**



**BROCHURE
FOR PEERS IN
ENVIRONMENTAL
RESEARCH AND
OBSERVATION**



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THE CHALLENGE

An innovative research environment for the next generation of scientists

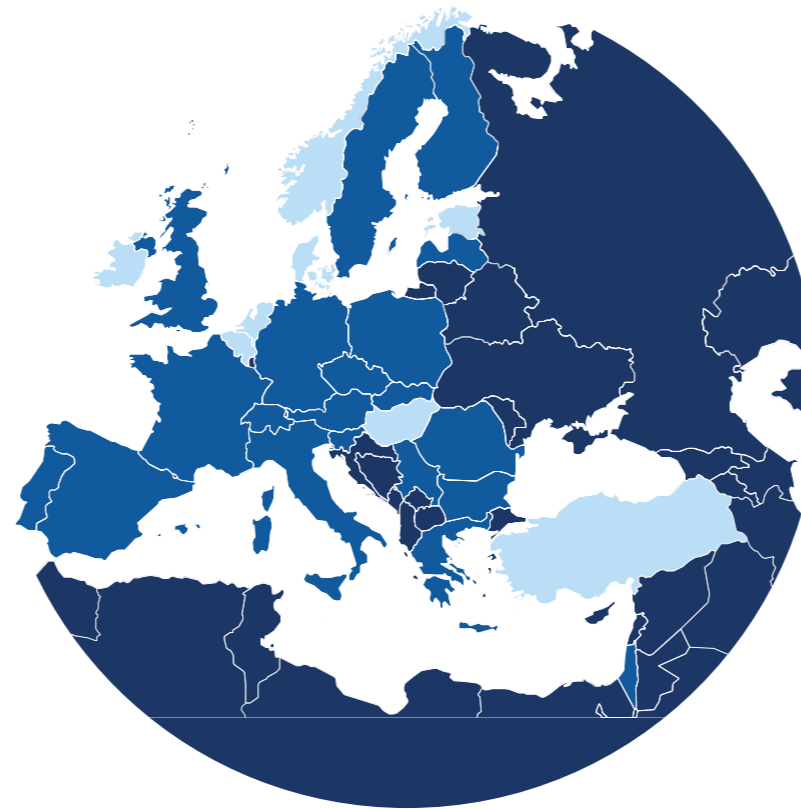
We live in a world of rapid social, economic and ecosystem change, facing major challenges such as global warming, biodiversity loss and pressures on natural resources. Addressing these topics requires world-class ecosystem, critical zone and socio-ecological research by communities of experts well-connected across various disciplines.

eLTER RI will catalyse scientific discovery through its state-of-the-art in-situ facilities and tools, open and accessible data, collaborative working culture, transdisciplinary expertise and its demand-driven service portfolio, comprising analytical tools and capacity building activities.

HOLISTIC SCIENCE

eLTER RI will adopt a fundamentally systemic approach to observe and analyse the human-environmental system, encompassing biological, geological, hydrological and socio-ecological perspectives. eLTER RI will be the first research infrastructure capturing and analysing holistically the integrated impacts of climate change alongside other pressures on a wide variety of European ecosystems.

It comprises in-situ Standard Observations range from biophysico-chemical to biodiversity and socio-ecological variables. Ecosystem change caused by long-term pressures and short-term pulses are investigated in a nested design from the local to the continental scale.



Support for eLTER RI

- Politically supported by 20 countries
- ~165 supporting institutions from 28 countries

KEY FEATURES OF eLTER RI

- Wide scale and systematic coverage of major European terrestrial, freshwater and transitional water ecosystems – ca. 250 research sites, selected from a wider pool of ~600 LTER-Europe sites
- Investigation of interactions between abiotic and biotic ecosystem components at multiple scales, including human-environment interactions
- Research into ecosystem processes influenced by multiple drivers, as well as socio-ecological research relating to ecosystem services
- Integrated, long-term and high quality observations across the critical zone, supporting whole ecosystem science
- Central Services provided by: Head Office, Service Portal and thematic Topic Centres
- Strong links with other European environmental RIs (e.g., ICOS, AnaEE, LifeWatch) and international collaboration, e.g., global LTER (ILTER), Global Ecosystem Research Infrastructure (GERI).

eLTER RI'S UPCOMING RESPONSE TO THE NEEDS OF ITS PEERS IN ENVIRONMENTAL RESEARCH AND OBSERVATION

What is the eLTER niche in the European and global landscape?

- eLTER is a building block of the European Environmental Research Infrastructures;
- A key characteristic is that it integrates across disciplines and domains: it covers the geosphere, freshwater and transitional waters, biosphere and lower atmosphere.

What makes eLTER a unique partner?

- eLTER explores the compounded impacts of climate change, biodiversity loss, soil degradation, pollution, and over-exploitation on major European ecosystems;
- eLTER's integrative role results from a holistic approach to investigating ecosystems and socio-ecological systems. It involves research teams across disciplines and stakeholders in a transdisciplinary approach.

What are the benefits of collaborating with eLTER?

- The holistic approach stimulates co-location with other RIs and networks jointly using basic infrastructure and scientifically complementing each other;
- eLTER harmonisation efforts adopt the best available standards from more specialised peers and fill critical gaps to achieve whole system observation;
- eLTER triggers bi- and multi-lateral network optimization and funding alignment at local, national and global scales.

How to collaborate with eLTER?

- The Service Portfolio of eLTER strives for multiple uses of own and other services;
- eLTER aims at integrating or directing to services from other RIs wherever possible;
- In areas of common interest options for co-design and co-implementation are explored;
- Responding to project calls in collaboration with other RIs and engaging in the European Environmental Research Infrastructures cluster (ENVRI) has always formed part of eLTER's strategy.