

# HOW eLTER COLLABORATES WITH PEERS IN EUROPE AND GLOBALLY

The emerging eLTER RI belongs to the in-situ research infrastructures in the environmental domain of the European Strategy Forum on Research Infrastructures (ESFRI). It has been involved in strategic and research projects within and beyond the environmental domain and with e-infrastructures. Such collaborations are key in addressing the global grand challenges, and support the synergistic implementation and operations of all participating RIs.



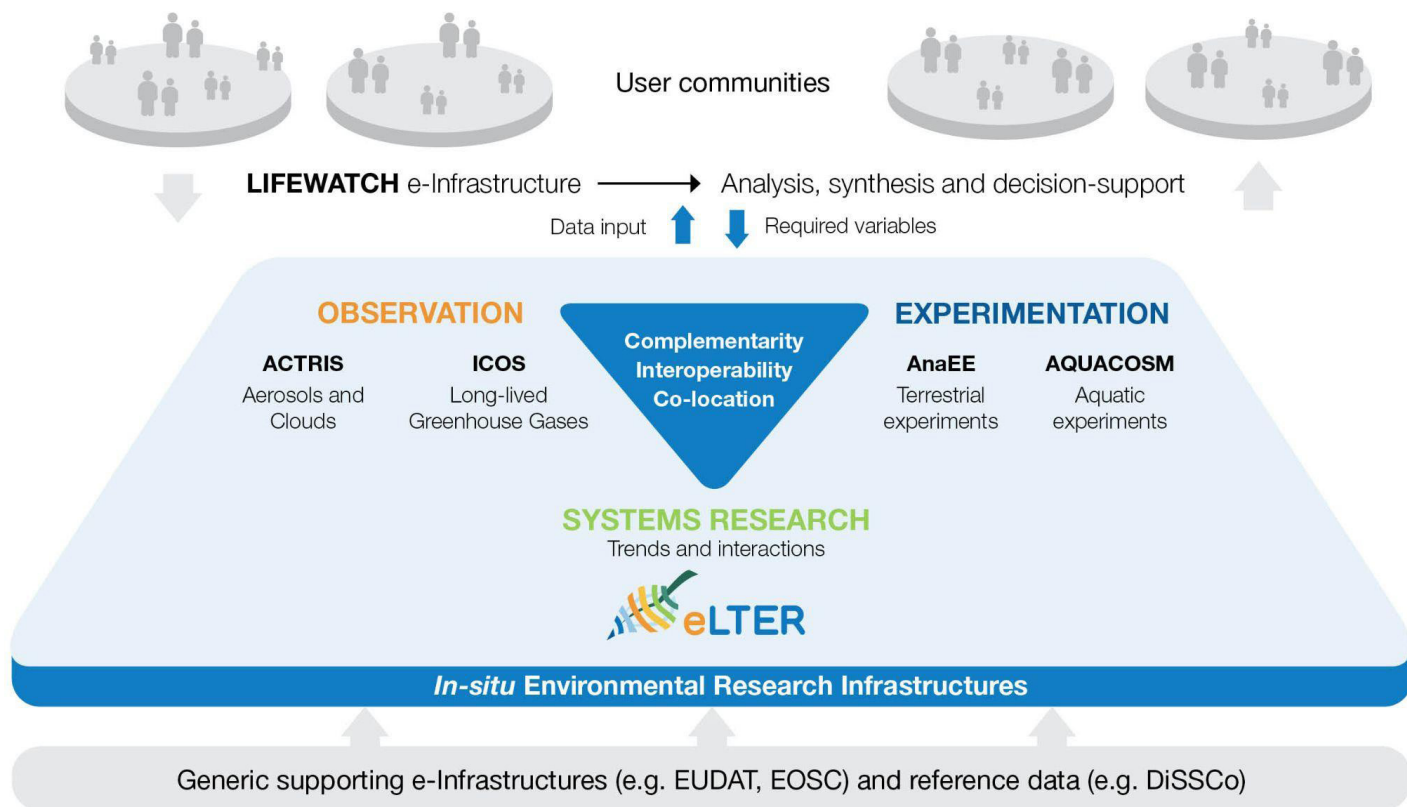
## Collaboration in Europe

The unique characteristics of eLTER are 1) the **consistent Whole System Approach** covering abiotic and biotic system components in a transdisciplinary manner and over a long time span, and 2) the nested site design covering multiple spatial and temporal scales relevant for analysing features linked to socially relevant environmental questions.

With its characteristics, eLTER RI contributes to an integrated cluster of European environmental infrastructures (e.g., in the H2020 cluster projects of European environmental RIs ENVRI, ENVRIplus, ENVRI-FAIR). We promote multidisciplinary partnerships and collaborations, pursue a policy of openness and transparency, and continuously explore opportunities for cooperation in the European RI landscape of networks and projects. This work has led to various mutually agreed collaboration agreements incl. ICOS, LifeWatch and the UNECE Working Group on Effects. Active cooperation benefits all participating networks and RIs by enabling interoperability and cost-efficient operations.

## Ways of collaborating (see Fig. 1)

- **COMPLEMENTARITY** enables a wider user base, improves sharing of best practices and knowledge, and reduces internal competition between the RIs. As a transdisciplinary, systems-oriented RI, eLTER RI complements the other *in-situ* RIs focused on large-scale observations and experimentation by cross- and transdisciplinary approaches at co-located sites and the creation of Information Clusters in support of systems analyses.
- **INTEROPERABILITY** is promoted via harmonisation of both conceptual (semantics, vocabularies, site documentation) and technical (methods, workflows, metadata) ecological standards. eLTER Standard Observations are compatible with existing standards and the harmonisation of workflows and data management enables collaboration with the generic supporting projects and e-infrastructures.
- **CO-LOCATION** means shared administration, harmonised observational schemes and joint facilities and staff, bringing scientific added value and increasing cost-efficiency in operations.



**Fig. 1:** The environmental *in-situ* RI landscape (centre) covers observation, experimentation and systems research (focus of eLTER), benefits from generic supporting e-infrastructures (bottom) and supports user communities (top).

## Global collaboration

eLTER contributes to global environmental observations by providing hundreds of in-situ facilities to the ILTER network (Mirtl et al 2018). eLTER promotes the highest-quality interoperable services in close interaction with the participating regional and global research infrastructures and networks in ILTER.

eLTER participates in EuroGEO, e.g., via the project e-shape, where eLTER leads the Ecosystems use case. Through the GEO Participating Organization ILTER, it is involved in GEO.

eLTER is a founding member in the Global Ecosystem Research Infrastructure (GERI), an integrated network of similar, independent, site-based ecosystem RIs in Africa, China, Australia, USA and Europe, dedicated to better understanding the function and change of indicator ecosystems across global biomes (Loescher et al. 2022). GERI harmonises their respective data and reduces uncertain-

ties, enabling broader cross-continental ecological research and the capability to address and anticipate global scale environmental challenges.

## References

- Loescher, H. W. et al. (2022). Building a Global Ecosystem Research Infrastructure to address global grand challenges for macrosystem ecology. *Earth's Future*, 10, e2020EF001696. <https://doi.org/10.1029/2020EF001696>
- Mirtl, M. et al. (2018). Genesis, goals and achievements of Long-Term Ecological Research at the global scale: A critical review of ILTER and future directions, *Sci. Total Environ*, 626, 1439–1462.

## Further links

- <https://www.esfri.eu/>  
<https://envri.eu/>  
<https://deims.org/>