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MEMBER

The e-Infrastructure for Biodiversity and Ecosystem Research

Research Infrastructure LifeWatch-ERIC | Spain



The e-Infrastructure for Biodiversity and Ecosystem Research (LifeWatch ERIC) is a distributed Research Infrastructure that provides digital services and e-resources for the European Research Area on biodiversity and ecosystems. LifeWatch ERIC represents a significant step forward, empowering users and stakeholders, as we seek to address societal challenges linked to climate change and resource efficiency, food security and agriculture, sustainable development and energy supply, security and health. Agroecology is a key topic for LifeWatch ERIC where we are contributing to support open science policy in Agroecology Research.

Aim

LifeWatch ERIC aims to accelerate the research efforts of the scientific community by delivering a European state-of-the-art e-Science Research Infrastructure on biodiversity and ecosystem research, specifically LifeWatch ERIC aims to:

- provide access to, and support for, key scientific services by applying cutting-edge ICT technology,
- enable reproducible analytics,
- co-design and co-create with the user communities and
- tune with the needs for research that provides key insights for society, in particular science-based policy.

Background information

LifeWatch ERIC enters the 2006 ESFRI Roadmap and was established as a European Research Infrastructure Consortium (ERIC) in March 2017. After a preparatory phase (2006 – 2010) and a transition phase (2010 – 2017), LifeWatch was established as a European Research Infrastructure Consortium (ERIC) by the European Commission, entering its operational phase. In 2024, we are in the second five-year implementation period. Organizationally, LifeWatch ERIC is a distributed infrastructure composed of eight European Union Member States (Belgium, Bulgaria, Greece, Italy, Netherlands, Portugal, Slovenia and Spain). LifeWatch ERIC's members operate from national nodes, known as Distributed Centres, while its Common Facilities are located in three Member States: Spain (Statutory Seat Office & ICT-Core), Italy (Service Centre) and the Netherlands (Virtual Laboratories and Innovations Centre).

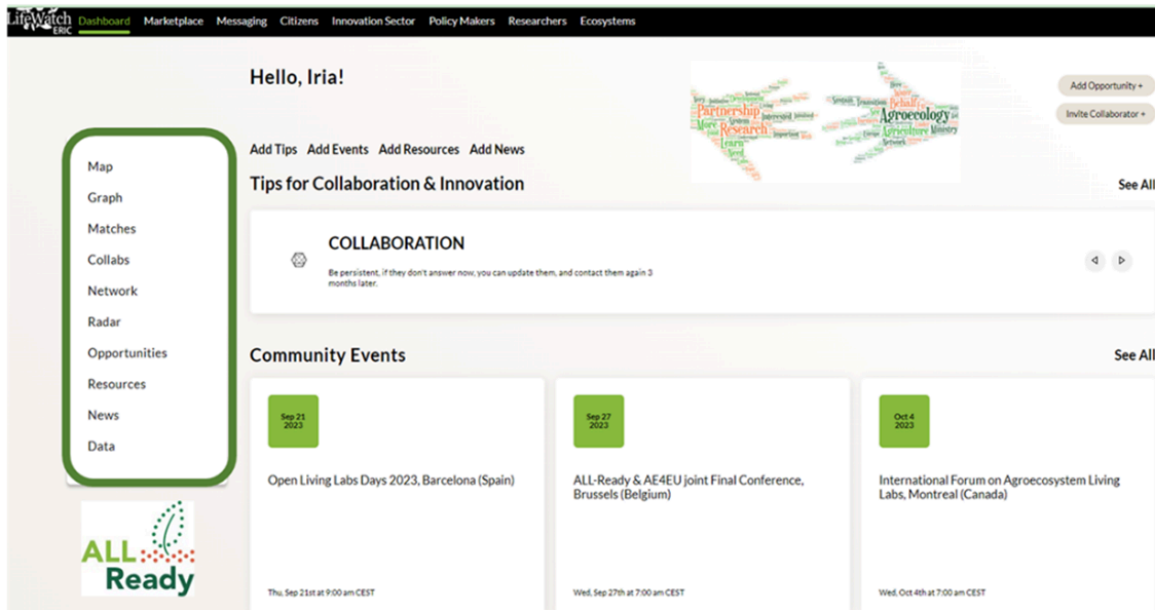
Funding structure

LifeWatch ERIC relies on a multi-level governance model to ensure effective decision-making, smooth management, scientific soundness and transparency of processes. Our main funding sources are ERIC Member States, European and national projects.

Activities

Some examples of the activities LifeWatch ERIC have performed are:

- Development of co-designed and co-developed Virtual Research Environments for improving problem-solving capacity for researchers, SMEs and entrepreneurs, and policy making in the field of Agroecology



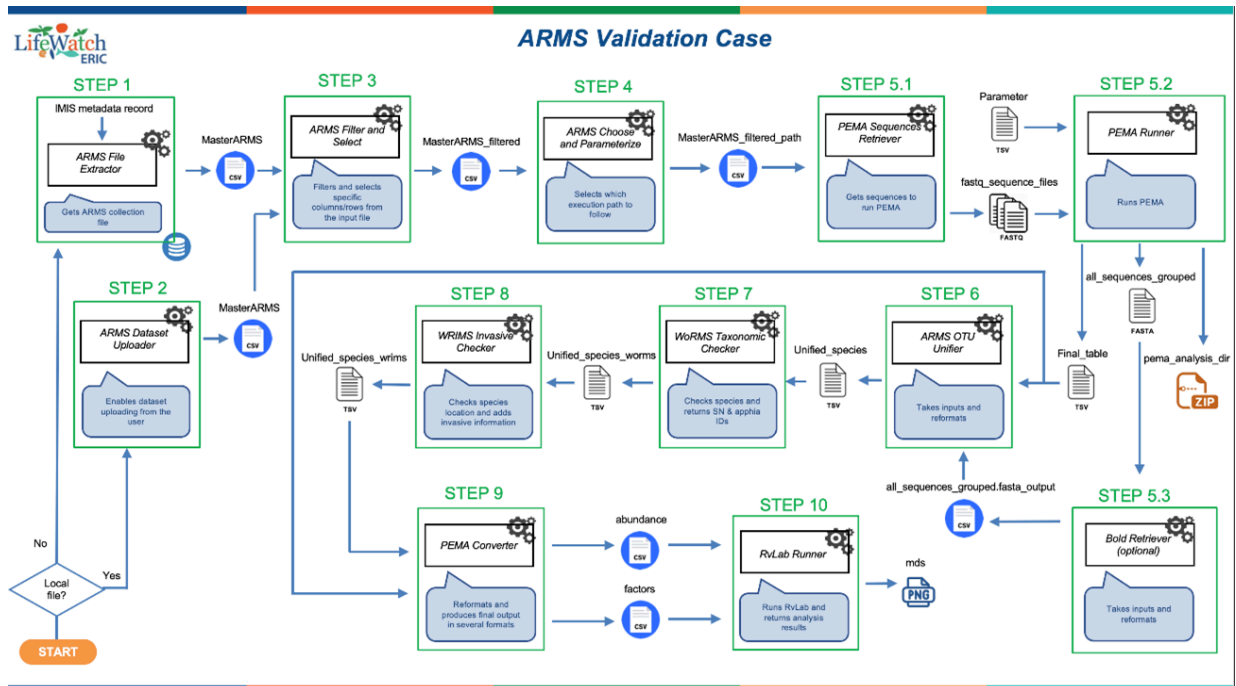
Source: LifeWatch ERIC

- Provision of access to multiple data and service resources in one click



Source: LifeWatch ERIC

- Provision of workflows dedicated to specific lines of research with customized data and services



Example of a workflow development for an Autonomous Reef Monitoring Structures (ARMS) programme. Source: LifeWatch ERIC

- Facilitation FAIR data management by training and developing of specific tools and plans

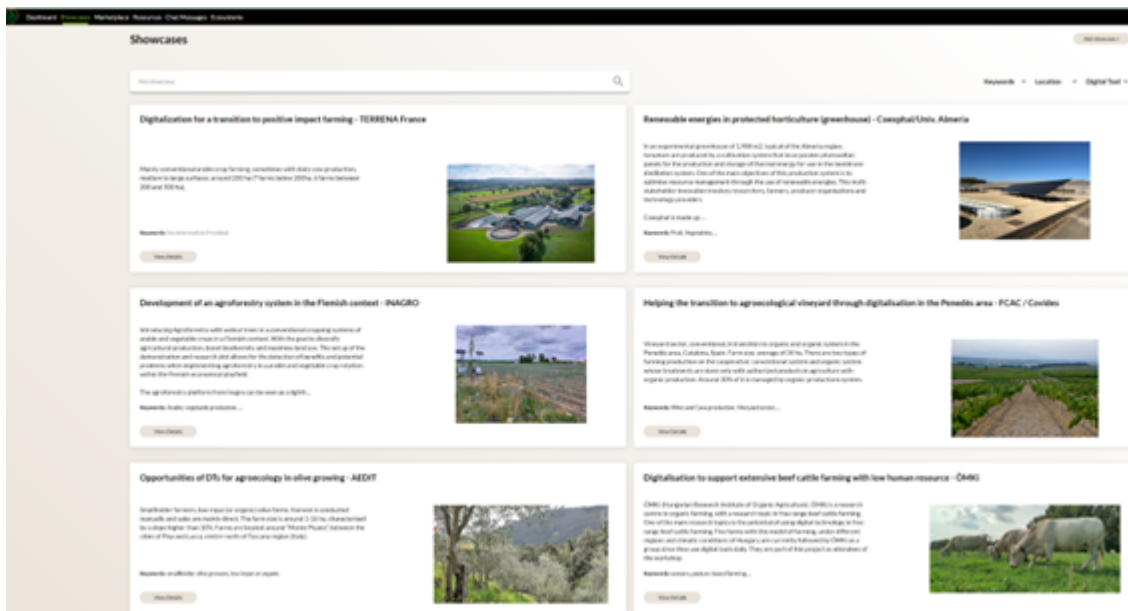


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Example of a Data FAIRNESS training. Source: LifeWatch ERIC

- Facilitation of networking and collaboration through the use of engagement activities and digital platforms



Source: LifeWatch ERIC

Methods, stakeholders engagements and tools

LifeWatch ERIC uses different approaches for stakeholders' engagement. As an example, to identify and define the user's requirements and needs we used a variety of quantitative and qualitative methods including questionnaires, interviews, workshops and working sessions. For the co-development of digital tools with the research community, we use standard agile methodologies for software development.



Stakeholder engagement session organized in LifeWatch ERIC premises in Seville, Spain.
Source: LifeWatch ERIC

Achievements

- Development of an Agroecology Virtual Lab in All-Ready project to foster digital collaboration among Agroecology Stakeholders (link <https://www.all-ready-project.eu/virtual-research-environment.html> ➔)



All-Ready Agroecology Virtual Lab – fostering digital collaboration among Agroecology Stakeholders



Source: LifeWatch ERIC

- Design of an Open Repository to facilitate access to digital tools and technologies for agroecological farming (<https://www.path2dea.eu/> ➔)
- Development of the PATH2DEA Virtual Research Environment to facilitate and streamline key connections related to the specific characteristics of the Digital Agroecology Ecosystem, including internal communication among project partners, visualization showcases, knowledge repository, and networking (digitalagroecology.lifewatch.eu)
- Provision of large, high profile research services to the scientific to facilitate and enable interdisciplinary and transdisciplinary research in agroecology and

foster open science and innovation (<https://agroserv.eu/>➔)



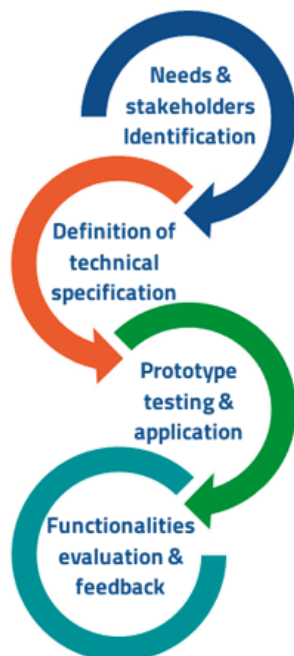
VREs & VLAB
LifeWatch ERIC

Agroecology Virtual Research Environment

AgroServ

LifeWatch ERIC

Implementing of integrated & customized portfolio of services



Objectives

- Promote innovation by improving the problem-solving capacities of users community
- Boost transition towards sustainable agroecological systems

Activities

- Generation of Virtual Spaces for collaboration and networking
- Gathering, processing and integration of datasets
- Provision of analytic tools e.g. GIS, Big Data, Artificial intelligence, Machine learning
- Development of decision making modeling and simulation tools
- Tokenization of Ecosystem Services

Outcome

- Foster opportunities for large-scale scientific development
- Support knowledge-base decision making to mainstream agroecology uptake
- Virtual Research Environment – Agroecology

Source: LifeWatch ERIC

- Development of a community of users and stakeholders engagement plan under AgroServ project (<https://agroserv.eu/about/orga...>➔)

Publications

Video: LifeWatch ERIC [Youtube Video](#)➔



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