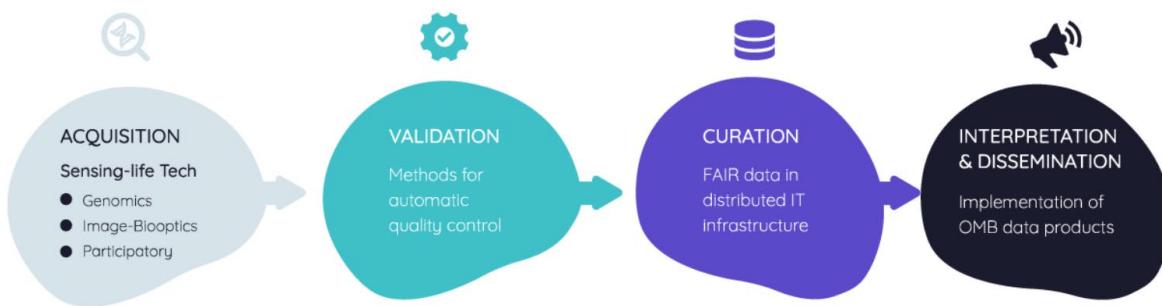




ANERIS (operational sensing life technologies for marine ecosystems) is a Horizon Europe project funded under the call [HORIZON-INFRA-2022-TECH-01](#): R&D for the Next Generation of Scientific Instrumentation, Tools and Methods. Coordinated by Consejo Superior De Investigaciones Científicas (CSIC), the project brings together 25 consortium members from 13 different countries, including research organisations, research infrastructures, industry partners and public authorities. ANERIS started in January 2023 and is scheduled for completion in December 2026, with a total duration of 48 months.

The main objective of ANERIS is to develop, test and implement the next generation of scientific tools and methods for sensing and monitoring marine life, thereby integrating a wide range of life-sensing technologies, including genomics, imaging and participatory (citizen) science. The project responds to a growing need for robust, standardised and scalable biodiversity observations to support marine research, environmental management and European policy objectives. The tools and methods are developed within a co-design framework and are tested through multiple use cases, ensuring close interaction between technology developers, end users and decision-makers. This approach ensures that the developed technologies and methods are both scientifically sound and applicable in real-world operational settings.

A second key concept of the project is Operational Marine Biology (OMB), understood as a biodiversity information system enabling systematic, long-term and routine measurements of marine and coastal life, combined with the rapid interpretation and dissemination of results.



The project also follows the quintuple helix model of innovation, aiming to deliver benefits across:

- **Academia**, through access to novel life-sensing technologies and methodologies;
- **Industry**, through new technologies and applications with innovation and market potential;
- **Governments and public authorities**, through improved observation systems and data products supporting environmental directives and marine management;
- **Civil society**, through citizen science approaches and increased engagement with marine biodiversity;
- **Research infrastructures**, by integrating new sensing technologies and training staff in their use and operation.

Through its focus on marine biodiversity monitoring and the development of operational life-sensing technologies, ANERIS aligns with broader European priorities related to environmental protection and sustainable ocean management. The project contributes knowledge, methods and tools that are relevant in the context of policy frameworks such as the EU Green Deal, the EU Biodiversity Strategy for 2030 and the Marine Strategy Framework Directive.



ANERIS partners at the 2024 Annual Meeting in Seville, Spain.

Flanders Marine Institute (VLIZ) is an active consortium member within ANERIS. VLIZ co-leads the genomics work package, contributing to the development of genomic technologies and OMB data products. In June 2025, VLIZ successfully organised a citizen science eDNA sampling campaign along the Belgian coast as part of the ANERIS use cases. The institute also contributes to the development of imaging technologies, using its expertise and long-term phytoplankton image datasets and workflows.

Through these activities, VLIZ helps strengthen the connection between science and society by making complex data streams more accessible to a wide range of users – including citizens, researchers, policymakers and environmental managers – and by raising awareness of marine biodiversity and monitoring efforts.

VLIZ's participation in ANERIS reflects its mission to support marine research, data integration and science–policy interaction at the European level. Horizon Europe provides a unique framework to collaborate with leading partners across Europe and to contribute our expertise to shared EU objectives. Through the project, VLIZ can actively shape emerging concepts such as Operational Marine Biology and help ensure that innovative technologies are developed with interoperability, standardisation and usability in mind.



Funded by
the European Union

