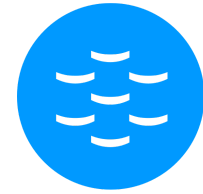




EMBRC ERIC

European Marine Biological Resource Centre



EMBRC
EUROPEAN
MARINE
BIOLOGICAL
RESOURCE
CENTRE

Website

<https://www.embrc.eu>

Headquarters

EMBRC ERIC
Paris, France

Legal Status

Established (ERIC, AISBL, GmbH,
Others)

Type

distributed

Access

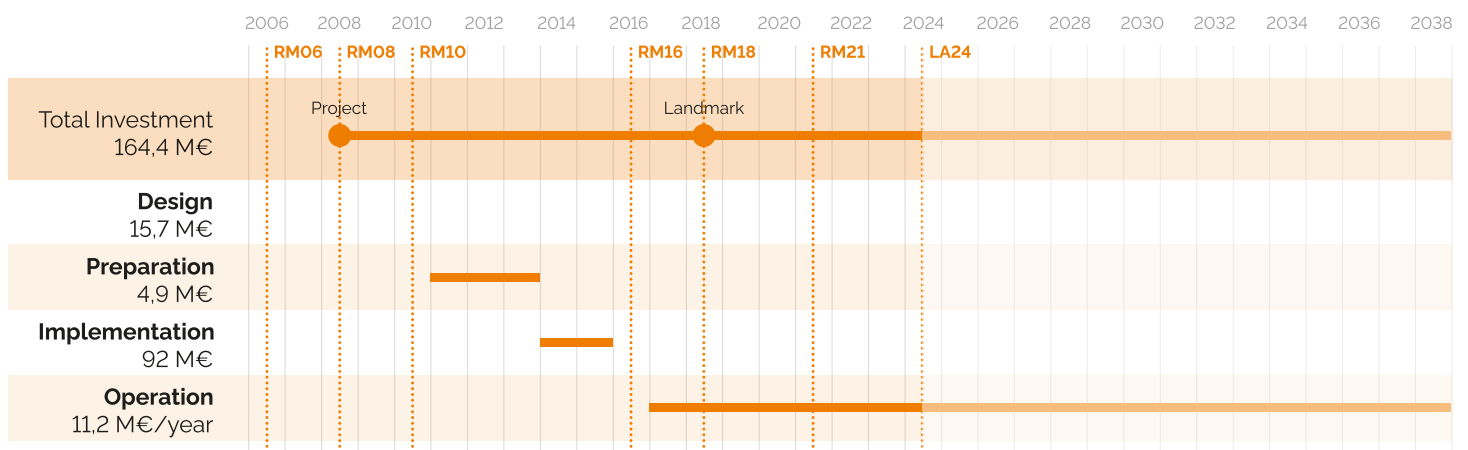
remote,
physical

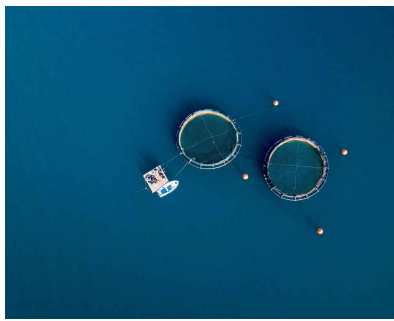
DESCRIPTION

The European Marine Biological Research Centre (EMBRC-ERIC) is a pan-European research infrastructure created to support fundamental and applied marine biology and ecology research in Europe and beyond. Through our network of marine stations and sites (more than 70) across Europe (Belgium, France, Greece, Israel, Italy, Finland, Norway, Portugal, Spain, and Sweden), we provide access to marine biodiversity and ecosystems from Arctic to tropics, services, facilities, and resources to help researchers from academia and industry explore the ocean and develop innovative solutions to issues. Our broad community aims to accelerate knowledge-sharing and cutting-edge science to foster excellence in marine research. With the goal of advancing marine science across the globe, EMBRC covers different research fields, including environmental science, taxonomy, ecology, physiology, evolution and development, ecotoxicology and climate change impacts. We collaborate with partners to promote the sustainable use of marine resources, and foster scientific innovation for goods and services of the Blue Economy. Supporting education since its creation, EMBRC promotes training aims to foster new training initiatives in marine science for the current and next generation of 'blue workers', through its Marine Training platform. Our work to advance marine science is underpinned by our commitment to meet the UN's Sustainable Development Goals (SDGs) and tackle societal problems. In the face of pressing environmental issues, EMBRC contributes to the

European efforts in understanding marine biodiversity and ecosystems, and the global science-based decision-making process. EMBRC has created EMO BON (European Marine Omics Biodiversity Observation Network) in 2021, a long-term marine biodiversity observatory that harnesses the potential of genomic methods to help understand the role of ocean life in the environment and their response to stressors. By connecting independent marine stations, EMO BON brings together decades of marine biodiversity knowledge and experience under one global network of observatories in Europe. This initiative is endorsed by the UN Ocean Decade of Ocean Science for Sustainable Development through the Ocean Biomolecular Observing Network (OBON) program, and aims to advance global discussions on marine observation to further develop ocean observation and monitoring capabilities. EMBRC has been part of the ESFRI Roadmap (European Strategic Forum for Research Infrastructures) since 2008 and was granted the status of European Research Infrastructure Consortium (ERIC) by the European Commission in 2018. It is part of the Food and Health RI community and collaborates with the Environmental RIs too, through the ENVRI community, to enable multidisciplinary science and boost collaboration in research. EMBRC headquarters are based in Paris and act as a central hub bringing together 10 member countries in Europe. It is registered as an international non-profit association under French law.

TIMELINE & ESTIMATED COSTS





POLITICAL SUPPORT

Lead

FR

Member

BE, ES, GR, IL, IT, NO, PT, SE

Prospective member

FI, SI



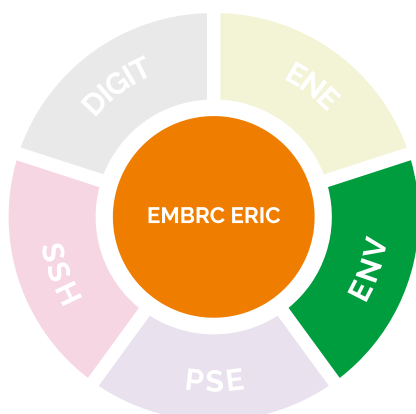
IMPACTS

EMBRC tackles societal challenges on multiple fronts: by contributing to the understanding and monitoring of marine ecosystems, by unlocking the potential of marine life for human health, and by promoting sustainable practices in marine biology and aquaculture. Through its dedicated marine biodiversity observatory network (EMO BON), EMBRC is pushing the inclusion of biological data in marine observation, particularly using DNA-based approaches, expanding our understanding of marine ecosystems, allowing an established and coherent framework for the monitoring of ocean health at European scale, crucial for assessing the status of our oceans, developing effective strategies to combat pollution and ensure sustainable fishing practices. EMBRC fosters research and innovation in aquaculture, addressing the challenges of environmental sustainability in this sector. With the objective to ensure food security and access to new sources of nutrients in Europe, EMBRC contributes to establish sound practices and protocols for the optimization of breeding programs and enhancement of disease resistance in marine organisms. By giving access to organisms in culture collections and marine model organisms, EMBRC offers a resource for bio-discovery across various fields (cosmeceuticals, pharmaceuticals, and nutraceuticals) and a biological platform for the study of genetic and molecular mechanisms underlying cancer and other diseases. Furthermore, EMBRC works to equip the next generation of marine scientists with skills and expertise in the use of state-of-the-art facilities and Open Science standards, through the access to different modalities of training (face-to-face, online, blended) to ensure the onset of professionals working for a healthy and productive ocean for generations to come.

SERVICES

EMBRC offers access to a broad range of facilities and living resources for research on marine ecosystems, macro- and microorganisms. Services are focussed on access to marine ecosystems (coastal research vessels, scientific diving teams) and marine organisms and their biodiversity, covering wild-type organisms (sampled on requests), culture collections of a wide selection of microorganisms (including genetically modified strains), and marine model organisms grown in the lab with full control of the life cycle. EMBRC also offers access to modular experimental facilities (aquaria, tanks, and mesocosms) enabling a broad range of experimental setups in proximity to the source of the organism and benefit from fully equipped laboratories and technology platforms for imaging, molecular biology and -omics, bioassays, structural and chemical analysis. Users can access these services either by on-site access (i.e. visiting our sites and their facilities) or by remote access (i.e. through shipment of the requested biological resources or analysed samples to their institutions). The collection and analysis of data is supported by e-services such as data analysis tools, bioinformatics and data management services. In 2021, EMBRC started to provide access to biodiversity genomics data obtained in its flagship initiative "European Marine Omics Biodiversity Observation Network" (EMO BON). EMBRC facilitates as well access to marine-related training opportunities and supports the education of the next generation of marine biologists and researchers through two digital platforms: MarineTraining (marinetraining.eu, a searchable catalogue of training courses and internships) and Ocean Training (oceantraining.eu, an e-learning platform for online and blended courses). Requests to access EMBRC services can be submitted online through the service catalogue in our website or by email to access@embrc.eu.

INTERCONNECTIONS



COOPERATION WITH OTHER RIS

As the only research infrastructure working in marine biology, EMBRC collaborates with other Research Infrastructures to build complementarities and to utilise the landscape of expertise in diverse scientific domains (from life sciences, through human health, to environmental sciences) to their fullest. Together with the RIs of the ENVRI community, EMBRC works to position research infrastructures as pillars for the support and sustainability of marine observation, collaborating for the development of methodologies (JERICO, Euro-ARGO) and tools for the analysis of marine biodiversity (LifeWatch) and for integrating these data in the European digital ecosystem (ELIXIR). EMBRC collaborates with other RIs in several projects for: the development of new imaging tools and methods (e.g. X-ray imaging and cryo-EM) to study marine ecosystems and its biodiversity, at cellular, ultrastructural and molecular level (EuroBioImaging, INSTRUMENT, ESRF EBS); the harmonisation of practices and data from culture collections (MIRRI) by implementing the standards of the Access and Benefit Sharing framework, the establishment of sound aquaculture practices and reduced environmental impact (ANAEE); the bioprospection of marine products for human and environmental health (EU-OPENSREEN) and for other biotechnological purposes (IBISBA). Furthermore, EMBRC has signed collaboration agreements and memoranda of understanding with different networks and organization for promoting the use of its services (EMBL, EOOS, EuroMarine), organising training events (EuroMarine, EMBL) and outreach activities (EMBL), and for the evaluation of the impact of its research outcomes (OpenAIRE).