

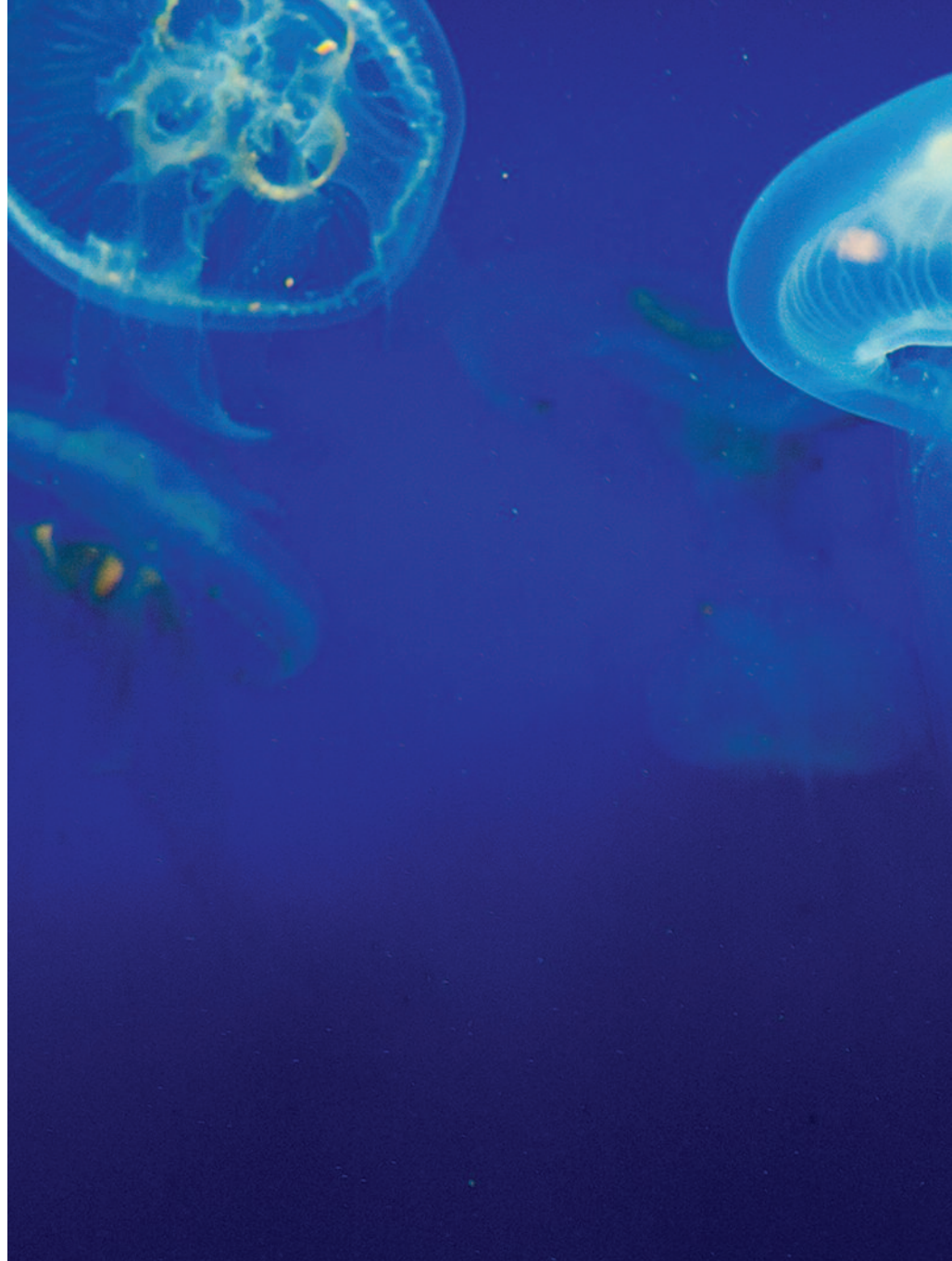


EMBRC
EUROPEAN
MARINE
BIOLOGICAL
RESOURCE
CENTRE

The European Marine Biological Resource Centre (EMBRC-ERIC): a pan-European Research Infrastructure in marine biology and ecology.

The European Marine Biological Research Centre (EMBRC-ERIC) is a supra-national Research Infrastructure (RI) designed to further fundamental and applied marine biology and ecology research. Organised with a distributed architecture, EMBRC-ERIC provides access to state-of-the-art national facilities, located at leading marine stations and research centres across Europe and Associated Countries.


Our seas and oceans control the Earth's climate and provide a rich and largely unexplored reservoir of biodiversity with great potential to contribute to food and energy security, human health and industrial production. Acquiring sufficient understanding of our marine ecosystems is key to the sustainable exploitation of the marine biological resources, and to predictions of future ocean scenarios, requiring a step-change in scientific endeavours.



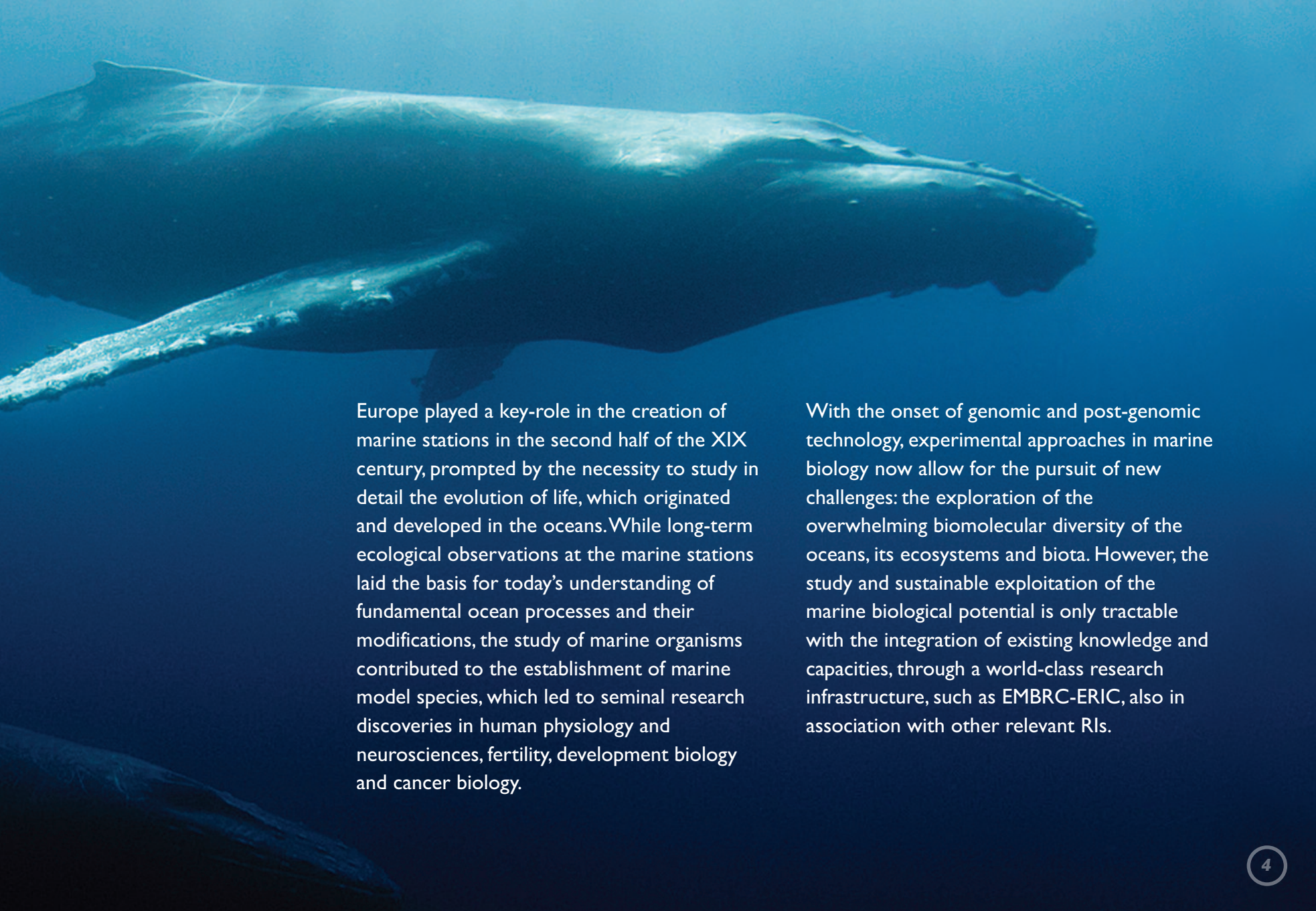


our vision

“ EMBRC-ERIC will be a global reference Research Infrastructure for fundamental and applied marine biology and ecology research, with a single access point to a unique portfolio of services, resources and knowledge. ”

An underwater photograph of several whales swimming in deep blue water. The whales are silhouetted against the lighter blue background, with their long, curved backs and tails visible. The scene is serene and captures the natural habitat of these marine mammals.

the relevance of marine biology and ecology research



Europe played a key-role in the creation of marine stations in the second half of the XIX century, prompted by the necessity to study in detail the evolution of life, which originated and developed in the oceans. While long-term ecological observations at the marine stations laid the basis for today's understanding of fundamental ocean processes and their modifications, the study of marine organisms contributed to the establishment of marine model species, which led to seminal research discoveries in human physiology and neurosciences, fertility, development biology and cancer biology.

With the onset of genomic and post-genomic technology, experimental approaches in marine biology now allow for the pursuit of new challenges: the exploration of the overwhelming biomolecular diversity of the oceans, its ecosystems and biota. However, the study and sustainable exploitation of the marine biological potential is only tractable with the integration of existing knowledge and capacities, through a world-class research infrastructure, such as EMBRC-ERIC, also in association with other relevant RIs.

“Advances in genomics and computer science have transformed earlier views of the ocean. It is no longer simply a source of food, but a vast reservoir of genetic potential and a means of achieving a wide range of socio-economic benefits. Genome sequencing is no longer the barrier it was a decade ago and our understanding of marine bioresources has improved significantly. However, new infrastructures are needed, with new models, new culture systems and new bioinformatics-based approaches to visualize genomics and other types of data.”

(Organisation for Economic Co-operation and Development - OECD, 2013)



Emergence of marine stations in the late 19th century

Laboratoire des Dunes' Pierre-Joseph Van Beneden, Ostend, Belgium (1843)

Stazione Zoologica A. Dornh, Naples, IT (1872)

Station Biologique de Roscoff, Roscoff, FR (1872)

Marine Biological Association in Plymouth, UK (1884),

Observatoire Oceanologique de Villefranche sur Mer, France (1885)

Observatoire Oceanologique de Banyuls sur Mer, France (1891)

Misaki Marine Biological Station, Japan (1886)

Marine Biological Laboratories, Woods Hole, MA (1888)

Cold Spring Harbor Laboratory, Long Island, NY (1890)

Hopkins Marine Station, Monterey, CA (1892)

The Gatty Marine Laboratory, St Andrews, UK (1896)



status

EMBRC was integrated into the European Strategy Forum for Research Infrastructures (ESFRI) roadmap in 2008. A Memorandum of Understanding to establish a legal structure to operate EMBRC-ERIC (EMBRC MoU) entered into force in December 2013, signed by nine countries (France, Greece, Italy, Portugal, Spain, UK, Belgium, Israel and Norway). France was selected to host EMBRC-ERIC, with Headquarters in Paris. EMBRC obtained its status as a European Research Infrastructure Consortium (ERIC) in 2018 and subsequently entered into its Operational Phase.



EMBRC benefits from a substantial Host Premium contribution since 2015, and monetary contributions by all Members since 2016. This has enabled the establishment of the EMBRC-ERIC Headquarters in 2015, managed by an Executive Director, assisted by the EMBRC-ERIC Secretariat.

Services are active, accessible, and visible through the EMBRC Access Portal. The long-term partnerships of EMBRC-ERIC enable advanced integration of the marine biological research capacity in Europe and strategic joined-up development activities at the European scale.

challenges

In the context of growing population pressures, the world is facing increasingly complex challenges such as human health and ageing populations, sustainable supply of food and energy, global warming, ocean acidification and environmental degradation.





Marine biological sciences and ecological research make an increasingly important contribution towards:

Understanding marine ecosystem functioning for healthy future oceans;

Resolving the extent of the world's ocean marine biodiversity;

Unlocking the potential of the marine realm for new biomaterials;

Developing scenarios for changing oceans, e.g. through the improvement of ecological models;

Providing traditional and new marine biological models to further fundamental life sciences discoveries;

Developing enabling technologies, standards and methods supporting scientific breakthroughs;



EMBRC-ERIC: a platform for innovation



Marine biodiversity constitutes an under-tapped resource within the European Research Area. Marine organisms are rapidly becoming important for Research, Technology Development and Innovation (RTD&I) in the life sciences, and as a source of innovative products and services for society, from biomedical products to food and energy solutions.

Acting at the interface between biomedical and environmental sciences, and the biotechnology sector, EMBRC-ERIC will play a key role in unlocking the potential of the marine realm for new concepts, as a driver for technology development and industry innovation, and supporting the needs for knowledge, technology, materials and models to tackle Societal Grand Challenges.

Fundamental Biological Sciences & Marine Biology



Marine Model Organisms & Omics Technology

Translation

Biomedical Sciences and Applications

Environmental Sciences and Applications

Education and Training

Long Term Monitoring

Translation

“ The Research Infrastructures, in connection with the landscape of research project opportunities, are key drivers of local innovation processes and a fundamental support to the regional specialization strategies. ”

Sigi Gruber, Head of the Marine Resources Unit, DG Research and Innovation, EU Commission

what we offer

Access to a portfolio of state-of-the-art research platforms, biological resources, analytical services, data, knowledge and expertise;

Quality of access by common standard quality practices and unique integrated workflows of specialized services;

Strengthened connectivity of science with users from industry through the establishment of Expert Centres for blue biotechnology innovation;

Engagement of the European maritime regions to collaborate in the development and integration of EMBRC-ERIC and contribute to consolidate their Research and Development and Innovation (RDI) policies.

Education of the next generation of research scientists through exposure to and training on excellent infrastructures and services, as well as advanced technology; training for researchers, also from the private sector, to utilize advanced technologies; enhancing the managerial competence and technical skills of the RI personnel;

Long-term Monitoring of the marine system at key marine locations in Europe.



strategic landscape & collaborations

Research Infrastructures (RIs) play an increasingly important role for the advancement of knowledge and technology in Europe and worldwide. Referring to facilities, services and resources, which are open to the scientific community to conduct top-level research, RIs bring together the suitable conditions and critical mass to enable cutting edge, large-scale research. Compared to projects or networks, which often last a few months or years only, without sharing any investment or representative governance structure, the power of research infrastructures lies, amongst others, in their longevity allowing for long-term, strategic planning.

EMBRC-ERIC is embedded in a landscape of 48 European RIs, covering all research areas from biology to social sciences and physics, selected by the European Strategy Forum for Research Infrastructures (ESFRI) based on their pan-European interest and ability to answer the long term needs of the European research community. EMBRC-ERIC is a member within the Health and Food group of ESFRI RIs, and collaborates with the Environmental Sciences group.



EMBRC-ERIC is involved in a number of EU projects, which consolidate and integrate the RI community, linking cognate RIs and providing interoperability practices, standardised procedures for data-gathering, -handling, -calibration and -storage, continuous workflows across RI platforms, and common open platforms for data sharing.





impact

EXCELLENT SCIENCE

EMBRC-ERIC is a vehicle for long-term programmatic planning, including acquisition or development of novel technologies, and coordinating information collection for open-access, interoperable data repositories, supporting excellent science pursuits and the establishment of new enabling technologies.

INTEGRATION

EMBRC is a vector of integration for the European marine biological research capacity. This is evident at the national level, with the creation of National Nodes, which embody the concepts of optimum use of the facilities and adoption of the highest quality and interoperability standards, according to the EMBRC-ERIC business model.

INNOVATION

The strengthening of an innovation ecosystem around EMBRC's Operators will be the result of the Consortium policy to support industry's innovation needs, with transfer of advanced knowledge and technologies, as well as offering industry-standard quality premises and working practices.



COHESION

EMBRC-ERIC allows cohesion at the regional level by enhancing the visibility of the EMBRC operators and up-skilling of their workforce, as well as education and training opportunities in their local communities, thus attracting business and supporting employment and employability.

EDUCATION

Education is a major remit for EMBRC, impacting on the formation of the next generation of scientists, as well as spreading ocean literacy to the public, and training industry researchers to the latest technologies, for a competitive European industry and a mindful society.

“ The ERIC ultimately generates the necessary conditions to enable a sustainable framework around the EMBRC Operators and for a competitive and sustainable European blue bioeconomy sector. ”



EMBRC-ERIC partners

EMBRC-ERIC is composed of 30 institutions (the "Operators"), organised in National Nodes, in 9 different countries.

The EMBRC-ERIC Operators

Acronym	Name
Belgium	
VLIZ	Flanders Marine Institute
UGent	Ghent University
RBINS	Royal Belgian Institute of Natural Sciences
UHasselt	Hasselt University
France	
OOBM	Observatoire Océanologique de Banyuls sur Mer
OOVM	Observatoire Océanologique de Villefranche sur Mer
SBR	Station Biologique de Roscoff
UPMC	Université Pierre et Marie Curie
Greece	
IMBBC/HCMR	Institute of Marine Biology, Biotechnology and Aquaculture/Hellenic Centre for Marine Research
Israel	
IL IUI	Interuniversity Institute for Marine Sciences in Eilat
Italy	
CONISMA	Consorzio Nazionale Interuniversitario per le Scienze del Mare
ISMAR	Istituto di Scienze Marine
IAMC-CNR	Istituto per l'Ambiente Marino Costiero del Consiglio Nazionale delle Ricerche
OGS	National Institute of Oceanography and Experimental Geophysics
SZN	Stazione Zoologica Anton Dohrn

Norway	
NTNU	Norwegian University of Science and Technology
UiT	The Arctic University of Norway
UiB	University of Bergen
UiO	University of Oslo
Portugal	
CCMAR	Centre of Marine Sciences
ACOI	Coimbra Collection of Algae
IMAR	Institute of Marine Research
CIIMAR	Interdisciplinary Centre of Marine and Environmental Research
Spain	
PIE	Plentzia Marine Station
ECIMAT-UVIGO	Toralla Marine Science Station
United Kingdom	
NERC-BAS	Natural Environment Research Council - British Antarctic Survey
SAMS	Scottish Association for Marine Science
SOI	Scottish Oceans Institute
MBA	The Marine Biological Association
Marine Scotland	Scottish Government - Marine Scotland

EMBRC-ERIC Liaison Officers

National Node	website	e-mail
EMBRC-BE	embrc.eu/belgium	Liaison_BE@embrc.eu
EMBRC-FR	embrc.eu/France	Liaison_FR@embrc.eu
EMBRC-ES	embrc.eu/spain	Liaison_ES@embrc.eu
EMBRC-GR	embrc.eu/greece	Liaison_GR@embrc.eu
EMBRC-IL	embrc.eu/israel	Liaison_IL@embrc.eu
EMBRC-IT	embrc.eu/italy	Liaison_IT@embrc.eu
EMBRC-NO	embrc.eu/norway	Liaison_NO@embrc.eu
EMBRC-PT	embrc.eu/Portugal	Liaison_PT@embrc.eu
EMBRC-UK	embrc.eu/united-kingdom	Liaison_UK@embrc.eu

EMBRC-ERIC partners map

Full name of the RI:

European Marine Biological
Resource Centre

Short name or abbreviation:

EMBRC-ERIC

Legal status:

ERIC

Operational status:

ERIC Operational status

Coordinator:

Dr. Nicolas Pade,
Executive Director

Contact:

+33.1.44.27.63.37

info@embrc.eu for general inquiries
acces@embrc.eu for services

Website: www.embrc.eu

RI member countries: Belgium (BE), Greece (GR), Spain (ES), France (FR), Israel (IL),
Italy (IT), Norway (NO), Portugal (PT), United Kingdom (UK)



Azores





www.embrc.eu



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