

ASSEMBLE



ASSOCIATION OF EUROPEAN MARINE BIOLOGICAL LABORATORIES EXPANDED

The ASSEMBLE Plus project

2018 Euromarine General Assembly
17-18 January, Porto



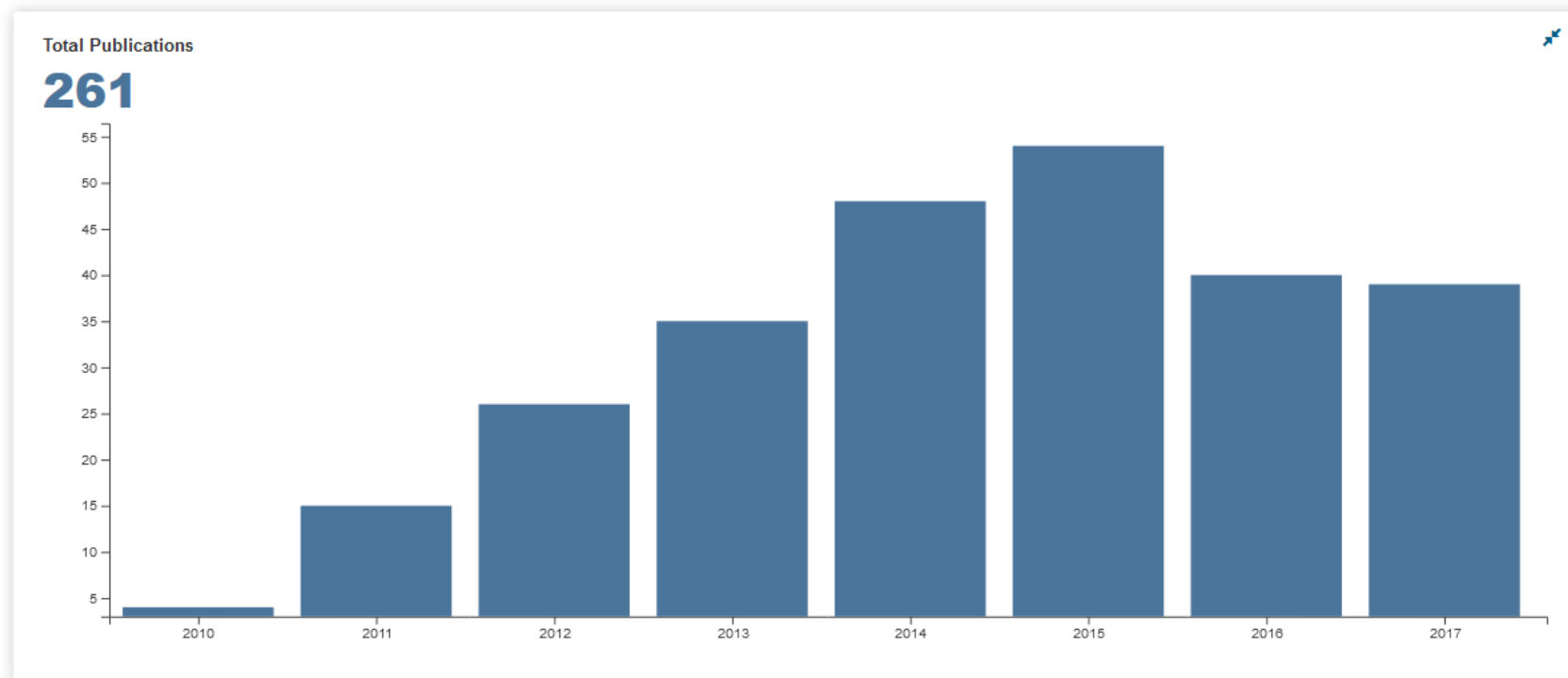
Content

- ASSEMBLE (2009-2013)
- ASSEMBLE Plus (2017-2021)
 - Objectives and expected impacts
 - Project Structure
 - TNA Calls
 - Building EMBRC-ERIC



Before A. Plus there was **ASSEMBLE** (2009-2013)

- 1049 Transnational access applications
- 691 projects funded (73 shipments of live organisms)
- 896 users hosted - over 10,000 person.days.
- 261 SCI articles up to now



A taste of publications

- 1. **Pandoraviruses: Amoeba Viruses with Genomes Up to 2.5 Mb Reaching That of Parasitic Eukaryotes**

By: Philippe, Nadege; Legendre, Matthieu; Doutre, Gabriel; et al.
SCIENCE Volume: 341 Issue: 6143 Pages: 281-286 Published: JUL 19 2013

- 2. **Illuminating the Base of the Annelid Tree Using Transcriptomics**

By: Weigert, Anne; Helm, Conrad; Meyer, Matthias; et al.
MOLECULAR BIOLOGY AND EVOLUTION Volume: 31 Issue: 6 Pages: 1391-1401 Published: JUN 2014

- 3. **Hundred years of genetic structure in a sediment revived diatom population**

By: Haernstroem, Karolina; Ellegaard, Marianne; Andersen, Thorbjorn J.; et al.
PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA Volume: 108 Issue: 10 Pages: 4252-4257 Published: MAR 8 2011

- 4. **Transgenerational effects alleviate severe fecundity loss during ocean acidification in a ubiquitous planktonic copepod**

By: Thor, Peter; Dupont, Sam
GLOBAL CHANGE BIOLOGY Volume: 21 Issue: 6 Pages: 2261-2271 Published: JUN 2015

- 5. **On the description of *Tisochrysis lutea* gen. nov sp nov and *Isochrysis nuda* sp nov in the Isochrysidales, and the transfer of Dicrateria to the Prymnesiales (Haptophyta)**

By: Bendif, El Mahdi; Probert, Ian; Schroeder, Declan C.; et al.
JOURNAL OF APPLIED PHYCOLOGY Volume: 25 Issue: 6 Pages: 1763-1776 Published: DEC 2013

- 6. **Intraspecific variability in the response of bloom-forming marine microalgae to changed climate conditions**

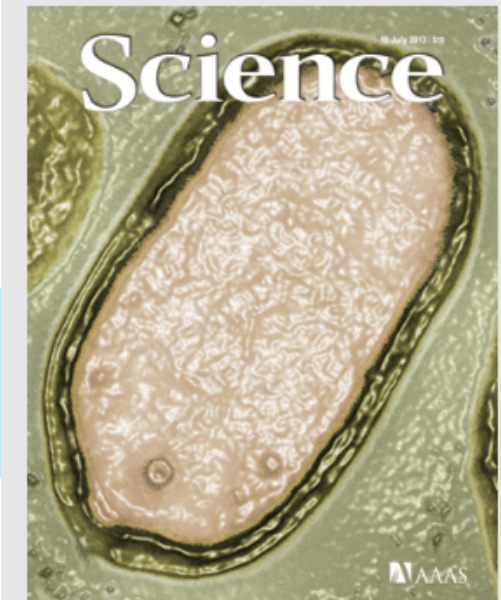
By: Kremp, Anke; Godhe, Anna; Egardt, Jenny; et al.
ECOLOGY AND EVOLUTION Volume: 2 Issue: 6 Pages: 1195-1207 Published: JUN 2012

- 7. **Congruence between nuclear and mitochondrial genes in Demospongiae: A new hypothesis for relationships within the G4 clade (Porifera: Demospongiae)**

By: Morrow, C. C.; Picton, B. E.; Erpenbeck, D.; et al.
MOLECULAR PHYLOGENETICS AND EVOLUTION Volume: 62 Issue: 1 Pages: 174-190 Published: JAN 2012

ASSEMBLE

About The Cover



COVER Enhanced transmission electron microscopy image of a "Pandoravirus" particle (length: 1.2 micrometers). Despite obeying all criteria to discriminate viruses from cells (no ribosome, no adenosine triphosphate production, no division), these Acanthamoeba viruses, unrelated to previously recognized virus families, exhibit genomes of up to 2.5 megabases, encoding more genes than some microsporidia. See pages 226 and 281. Image: O. Poirot/Structural and Genomic Information Laboratory, CNRS Aix-Marseille Université

The ASSEMBLE Plus Project

Call INFRAIA-01-2016-2017 - 'Advanced Communities' - research infrastructures with an advanced degree of coordination and networking (should involve EMBRC)

Objective:

“ASSEMBLE Plus aims to bring together, integrate and open up key national and regional research infrastructures to all European researchers within the marine biology sector, from both academia and industry, ensuring their optimal use and joint development.”

Expected impacts

- Integration of the advanced community of the European Marine Biological Stations (MBSs)
- Improvement of our Tech/knowledge-base for fundamental and applied research
- Scientists from academia, industry and policy to accede the EU MBSs.
- Consolidation of EMBRC-ERIC and expansion of its Membership base
- Support the EU Blue Growth agenda
- Reach out to the next generation of scientists with research and training opportunities

Partnership

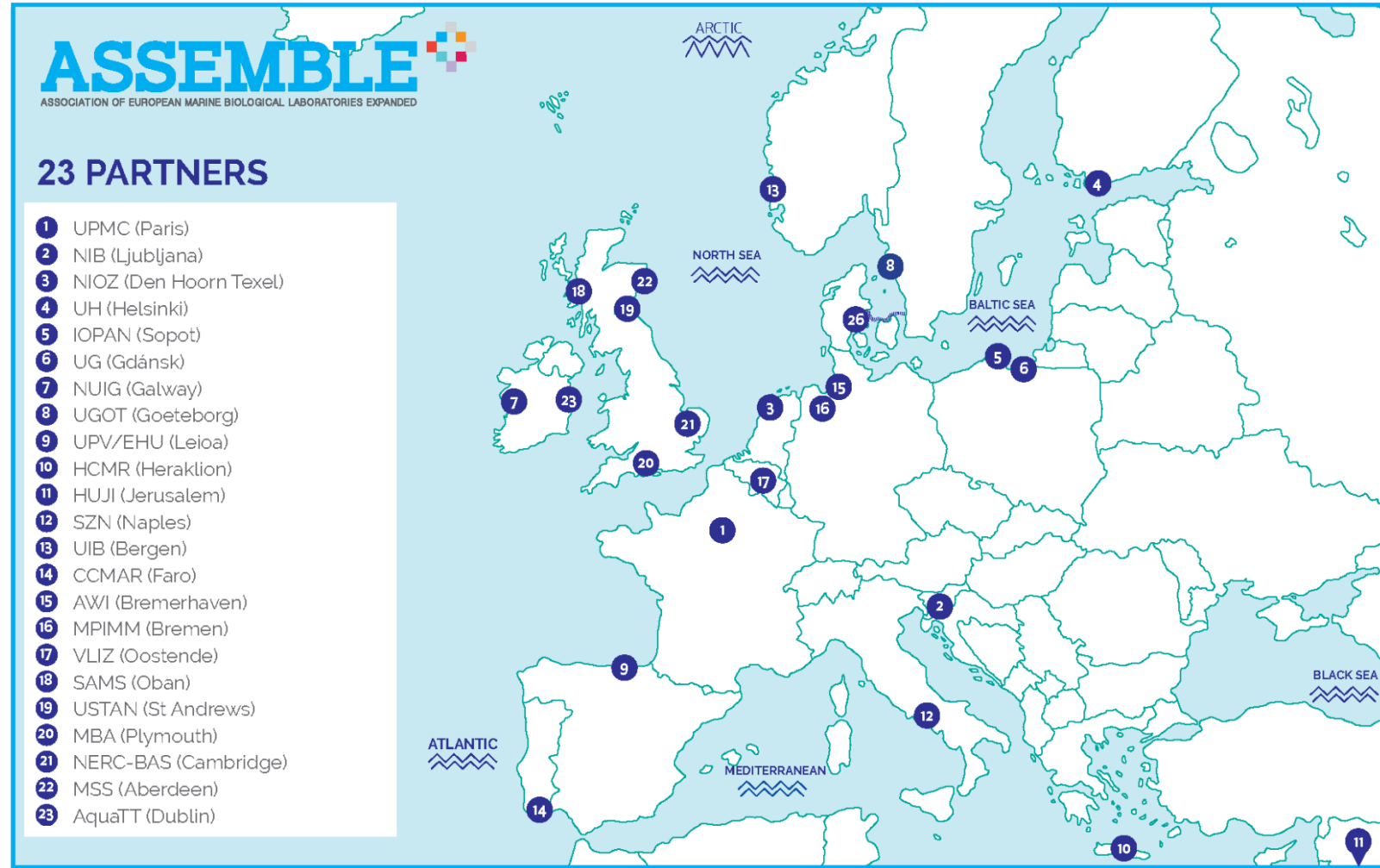
Partners: 23

Duration: 48 months (Oct 2017 – Sep 2021)

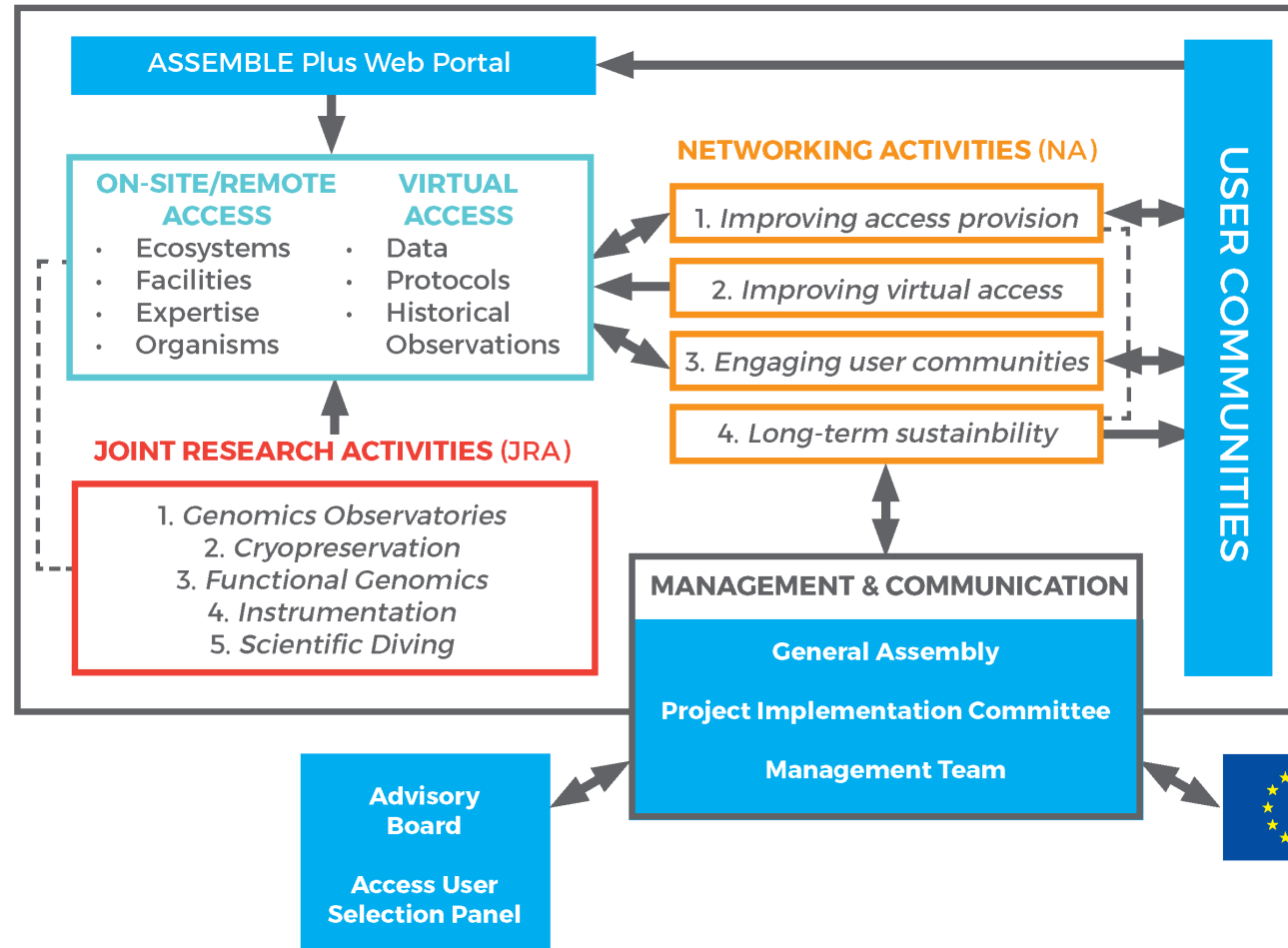
Budget: € 10 million

Coordination: UPMC

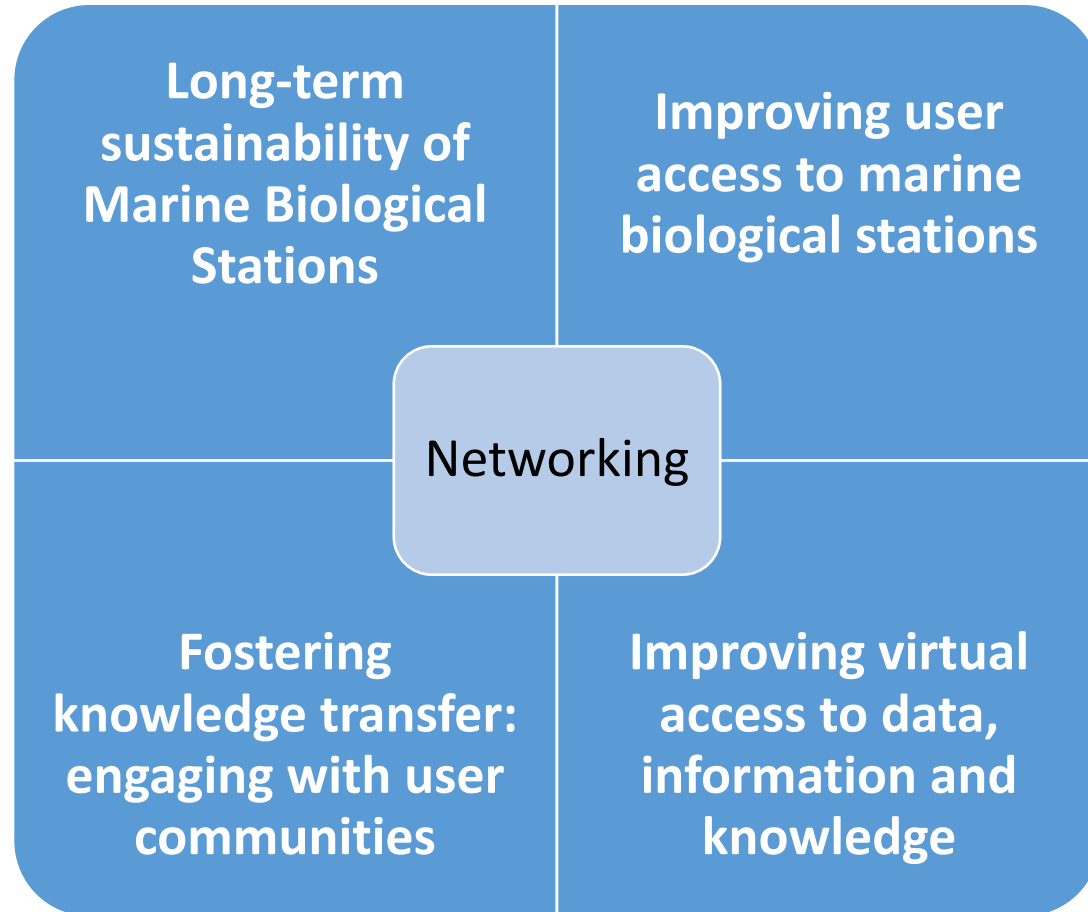
Scientific Coordinator: Ilaria Nardello,
EMBRC Executive Director



Project Structure

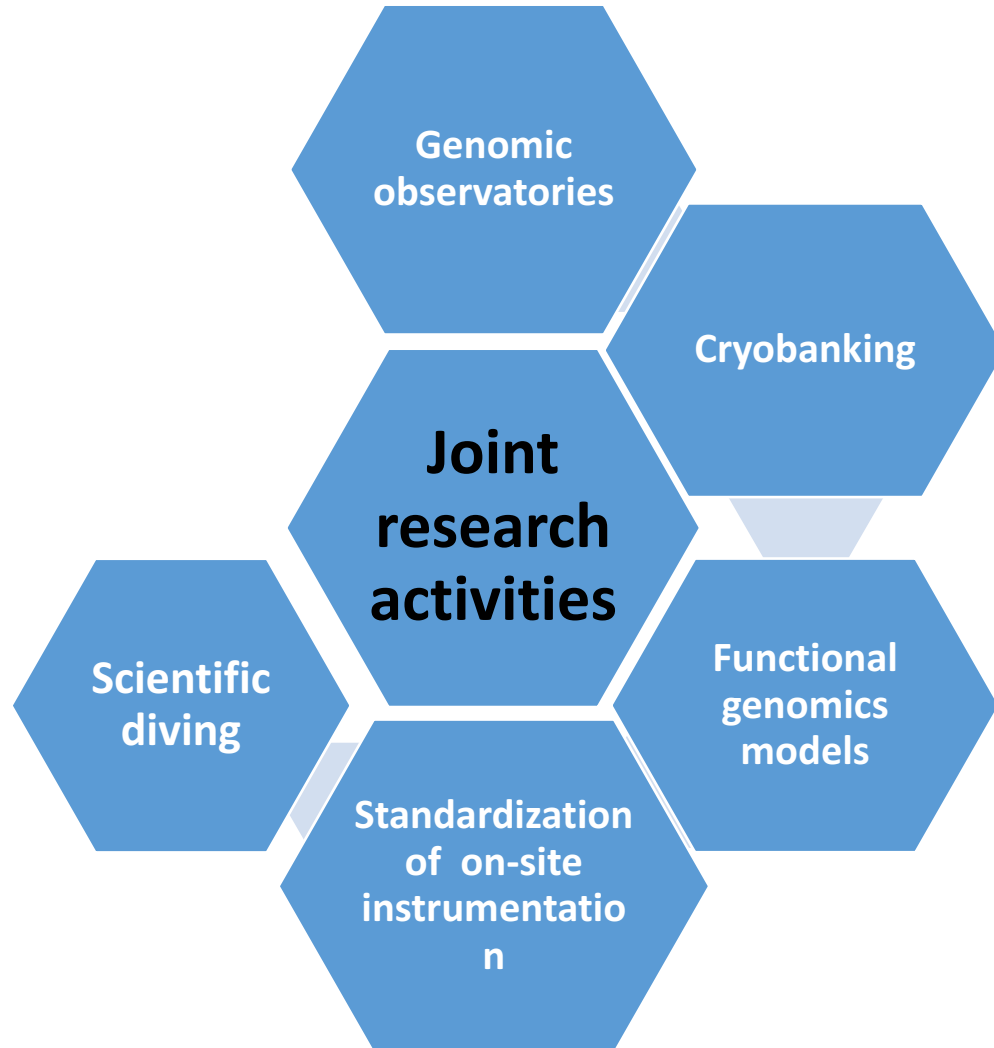


Networking activities



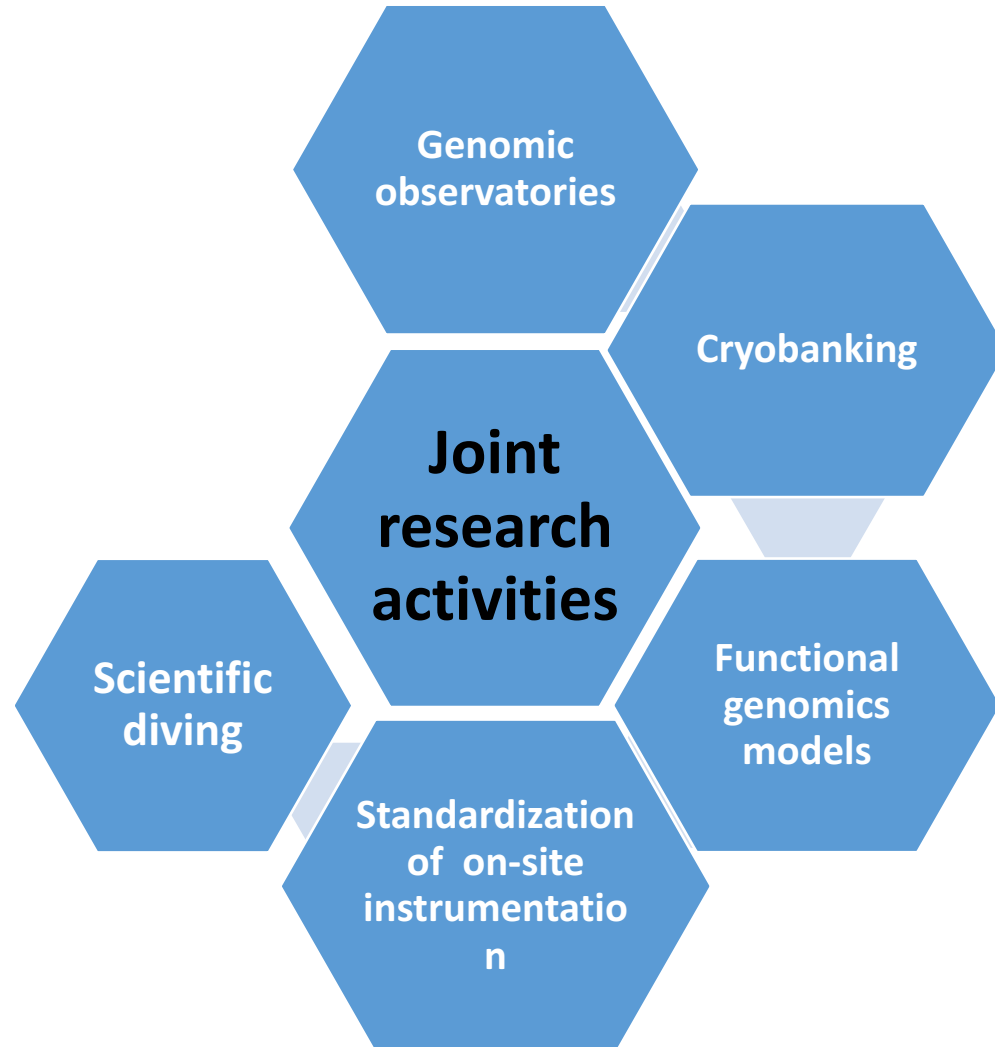
- Develop multi-infrastructure access
- Sharing best practices between MBSs
- Improve user access
- Improving interoperability of e-infrastructure
- Set-up virtual access of genomic analysis and long term biodiversity data series
- Staff training in various topics: Science in Society; Responsible Research and Innovation; Knowledge Transfer; Outreach and Stakeholder Engagement ...
- knowledge and technology gap forum to shape development of MBSs
- Knowledge transfer to industry
- knowledge exchange for prospective new users
- MBSs business models and future sustainability

Joint research activities



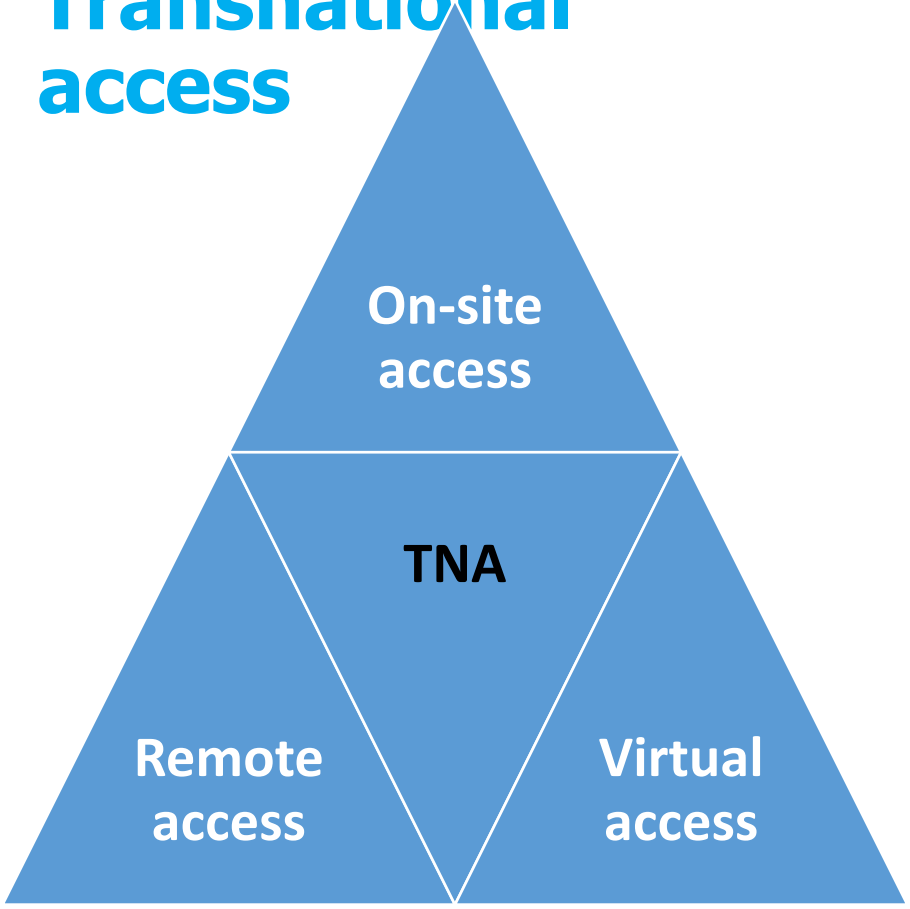
- Establish European Genomic Observatory network /monitoring time series
- develop strategic plan for DNA barcoding and metagenomics
- GO Ocean day and virtual access
- Web tool-box of methodologies available for cryopreservation of a variety of organisms and stages
- Web protocols for genetic transformation and deployment of CRISPR/Cas9 of emerging metazoan, macroalgal and microalgal models
- Online deployment of gene expression and phenotypic data
- collection of mutant and transgenic/enhancer trap lines

Joint research activities

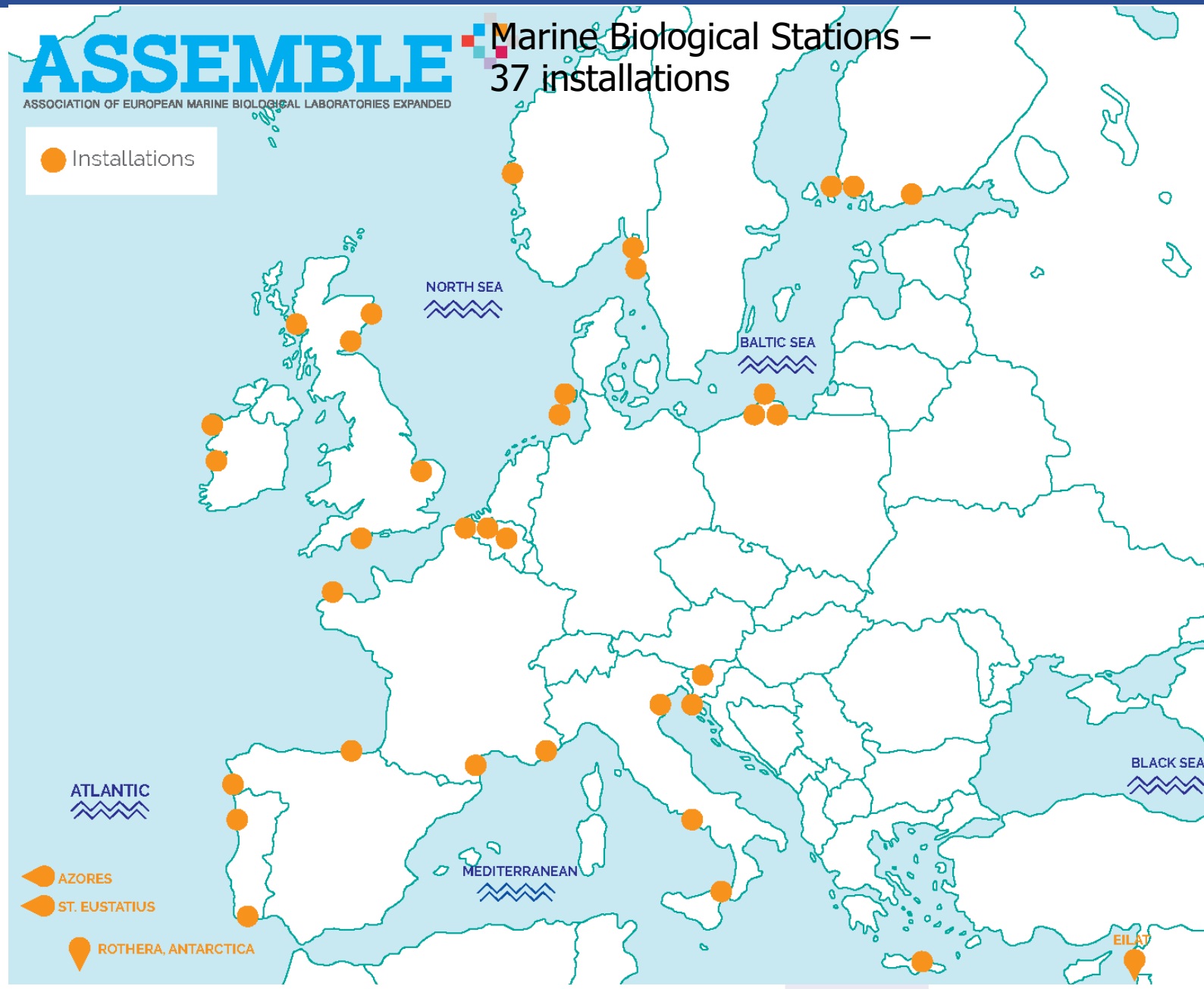


- Technical design specifications for various experimental systems for maintenance and production of marine organisms
- Standardising the underwater application of photogrammetry
- Developing an underwater observation network

Transnational access



ASSEMBLE Plus offers access to a wide variety of marine ecosystems, unique marine biological resources, state-of-the-art experimental and analytical facilities with integrated workflows, historical observation data, and advanced training opportunities.



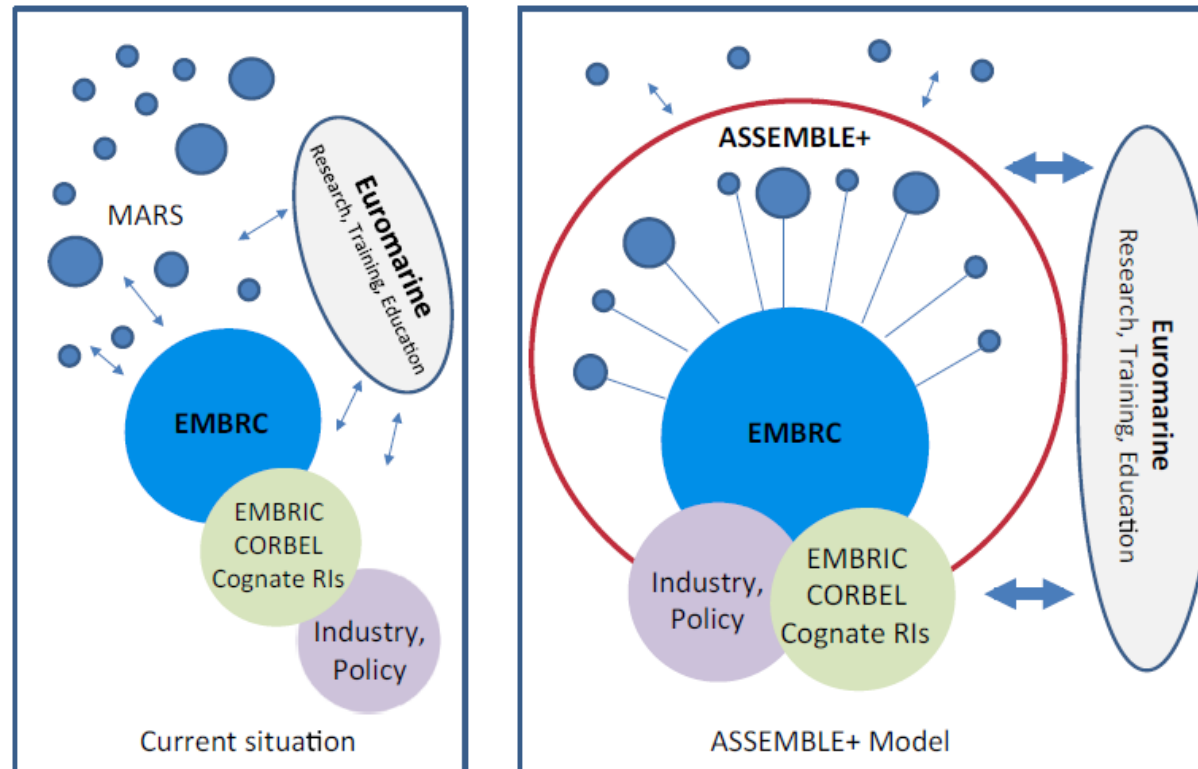
TA Call open until **2nd February**

- Calls every 6 months
- Projects submitted online
- Travel, subsistence, infrastructure access and some research materials



Building on EMBRC

ASSEMBLE Plus is an instrument to consolidate and expand EMBRC





EMBRC
EUROPEAN
MARINE
BIOLOGICAL
RESOURCE
CENTRE

Ecosystems



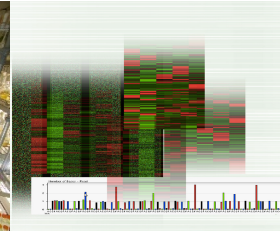
Model Organisms



Experimental Aquaria and Mesocosms



'Omic Platforms



Bioimaging



Responding to the Global Societal Grand Challenges through Advanced Marine Biology and Ecology Research

- ***Biomedical research***
- ***Sustainability of Food Production***
- ***Industrial Process Innovation***
- ***Environmental Adaptations to Climate and Pollution***



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Thank You

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 **@ASSEMBLE_Plus**