

# EMSO ERIC

Development of a pan-European Distributed RI.

Enhancing collaboration modes with EuroGOOS

emso  
ERIC

## *OBSERVING THE OCEAN TO SAVE THE EARTH*

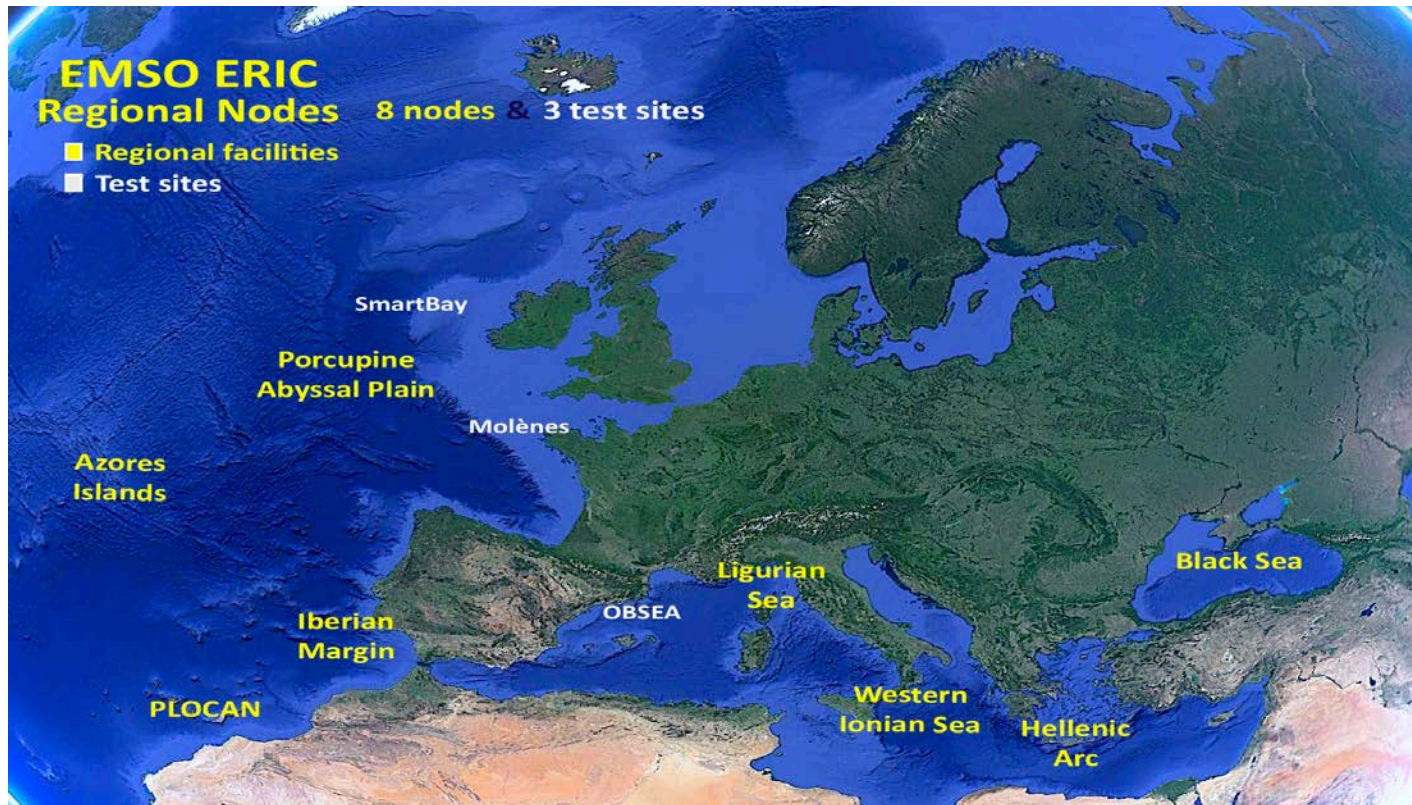
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EuroGOOS General Assembly

24<sup>th</sup> May, 2018 – Brussels





EMSO ERIC aims to promote excellent science through the coordination of a distributed infrastructure of Deep Sea observatories serving marine scientist, marine technology engineers, policy makers, industry and the general public.

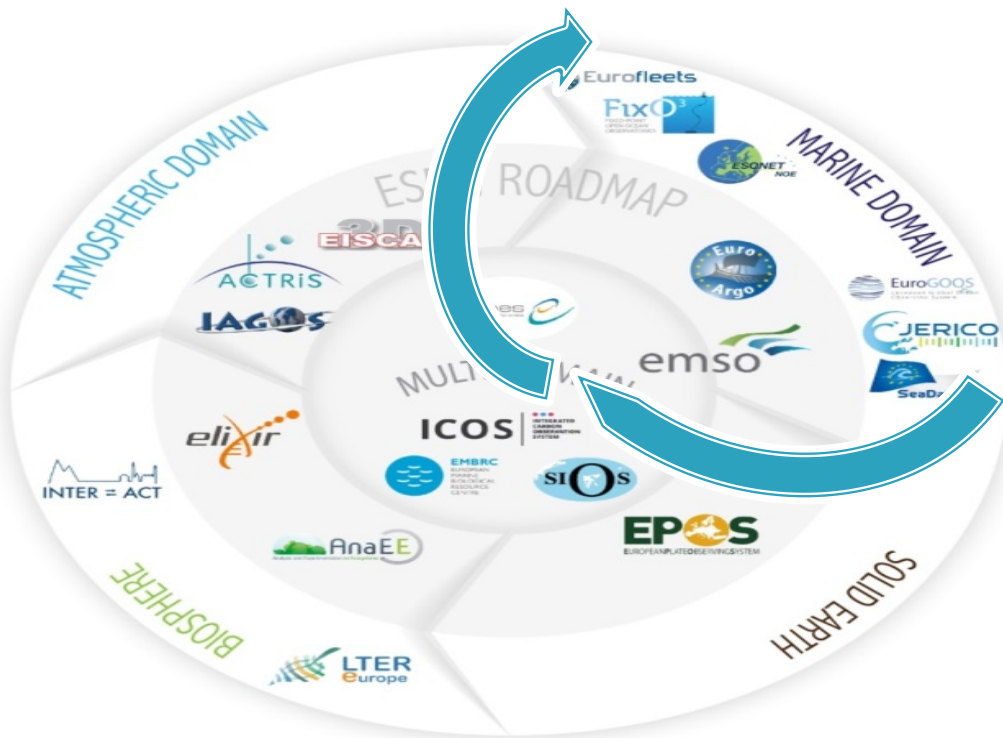
# DISTRIBUTED ORGANISATION MODE

*EMSO ERIC provides harmonized integration, operation and development of Regional Facilities*



It will increase visibility, capacity and research, supported by a distributed strategy, offering integrated services to a broad range of users





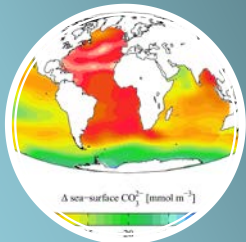
**Landscape of the European Research Infrastructures in the Environmental sector**

EMSO ERIC essential scientific objectives are to observe, in real time and in the long term, key environmental parameters related to the interaction between the geosphere, the biosphere and the hydrosphere.

EMSO facilities require, in the medium and long term, constant technological interventions and enhancement; EMSO members are committed to ensure the assistance of European oceanographic vessels.

# Research Infrastructure Challenges

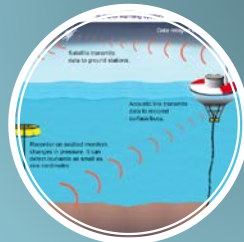
To fulfil European societal scientific demands targeted in the  
EU's H2020 Blue Growth Strategy



Global ocean  
warming and  
acidification



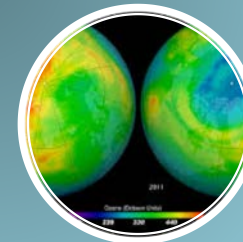
Impact and  
sustainability of  
Marine Resources  
exploitation



Real-time  
observations and  
early warning  
systems for  
earthquakes &  
tsunamis



Marine Ecosystems  
and Climate Change  
mitigation



Earth interactions  
hydrosphere,  
biosphere,  
lithosphere,  
atmosphere

Access HIGH QUALITY MARINE ENVIRONMENTAL DATA

# Mutual Topics of interest EMSO ERIC / EuroGOOS- Potential collaboration

- Coordinate activities in operational oceanography with the integration of EMSO ERIC in **EuroGOOS Task Teams**
- Support and contribute to the development of a **European Ocean Observing System (EOOS)**
- Coordinate activities to contribute to the development of the sustained in-situ component of the **Copernicus Marine Service**.
- Coordinate observing data procedures and services, including **data quality control** and data management of operational oceanography.
- **Joint programs and actions** common to their respective areas of interest.
- **Strategic Liaison Groups** from ENVRI ERIC'S (EuroArgo, EMSO, IOS, etc.) Set up for EOOS. The governance model should conform to the EC staff working document on "**Implementation roadmap for the European framework of open scientific governance**"

# PHASE APPROACH

## PHASE 1. COLLECTING INFORMATION

### REGIONAL FACILITIES **RESOURCES**

Infrastructures description:

- Expertise
- Data
- Engineering
- Technologies
- HR (Human Resources)



### REGIONAL FACILITIES **NEEDS**

- RF needs
- Type of Users
- User's needs
- Gaps in relation with Users needs



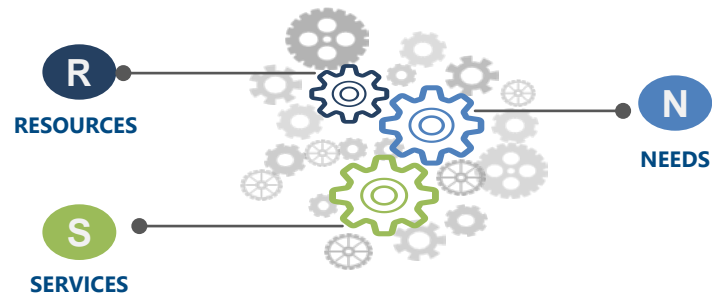
### REGIONAL FACILITIES **SERVICES**

- Already working
- Planned



**SURVEY ON THE OBSERVING  
CAPABILITIES, POLICIES, GOALS**

## PHASE 2. PROCESSING INFORMATION



**EXAMINING THE EXISTING CAPABILITIES  
IDENTIFYING VALUES AND GAPS**

# MAPPING PROCESSING

## INFORMATION ANALYSIS AND SYNTHESIS – MAPS

LINKING SPATIAL INFORMATION WITH INFORMATION RELATED TO DIFFERENT ACTIVITIES OF THE NODES

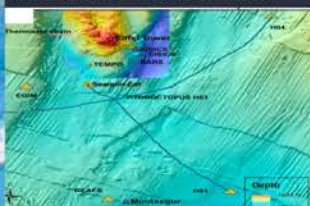
EMSO HELLENIC ARC



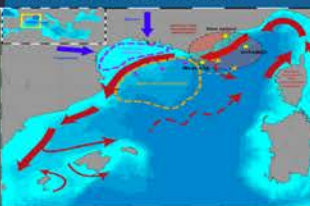
EMSO CANARY ISLANDS



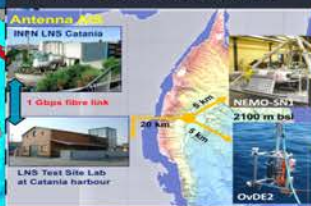
EMSO AZORES ISLANDS



EMSO LIGURIAN SEA



EMSO WESTERN IONIAN



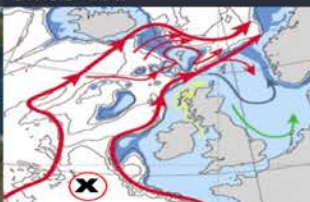
EMSO IBERIAN MARGIN



EMSO BLACK SEA



EMSO PAP



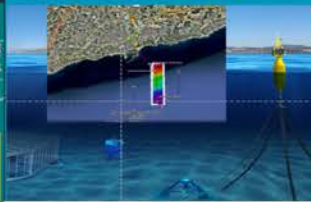
TEST SITES



EMSO SMARTBAY



EMSO OBSEA



EMSO MÔLENE



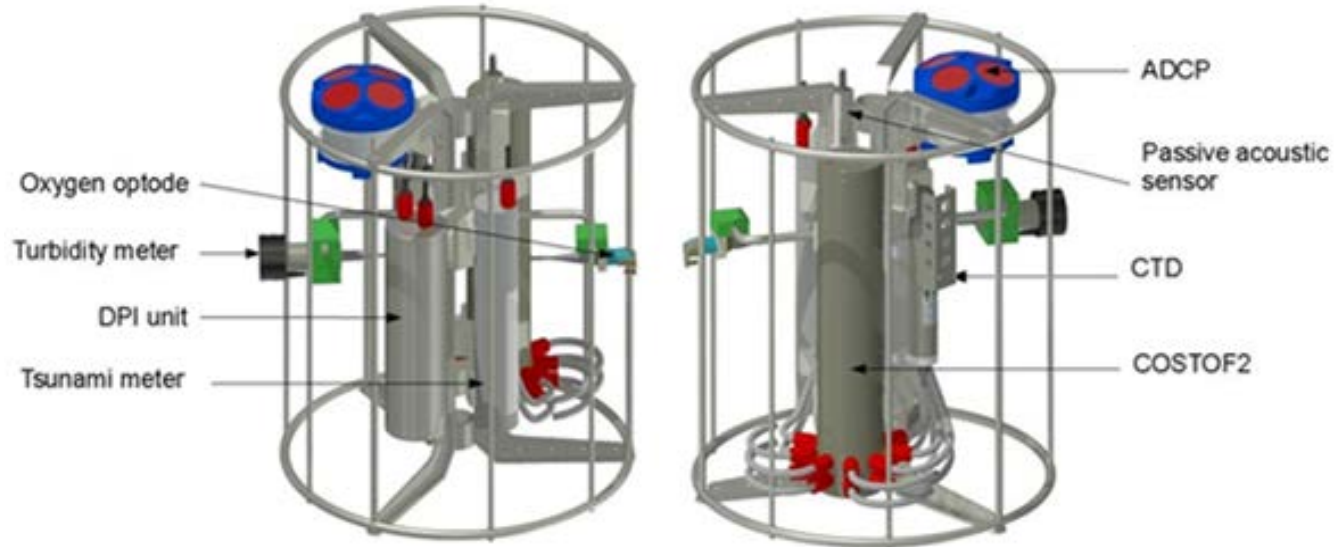




# ENGINEERING developments

EGIM measurements:

- Temperature
- Conductivity
- Pressure
- Dissolved O<sub>2</sub>
- Turbidity
- Ocean currents
- Passive acoustics



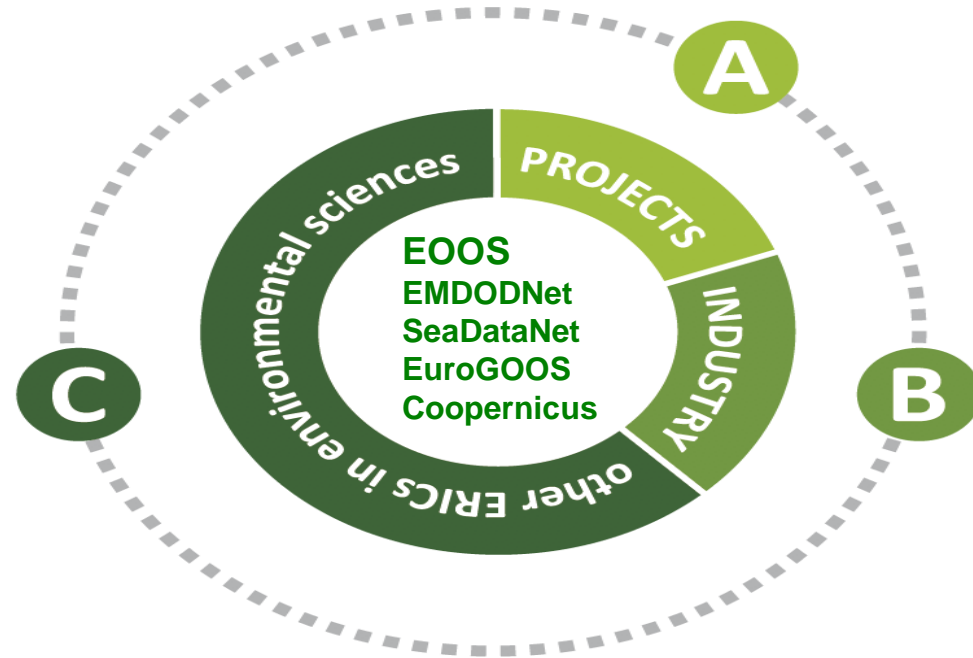
The development of EGIM is an example of the engineering services that EMSO can provide.

# EMSO ERIC LINKS WITH

**A** **PROJECTS** such as EMSODEV, COOP+, AtlantOS, NeXOS and JERICONEXT to exchange information and develop synergies on common issues (common forum for marine technology; metrology for marine sensors; carbon flux and climate change).

**B** **INDUSTRY** to improve/develop the technology behind EMSO ERIC and to proffer the possibilities offered by the network. (use of EMSO ERIC nodes as test beds for industrial equipment, methods or services)

**C** **INFRASTRUCTURES** such as ENVIRONMENTAL ERICs in environmental sciences (e.g., ICOS, EURO-ARGO, LIFEWATCH,) and other world wide infrastructures (e.g., OOI, ONC, IMOS) to reach a global monitoring for marine environment.  
White paper OceanObs19



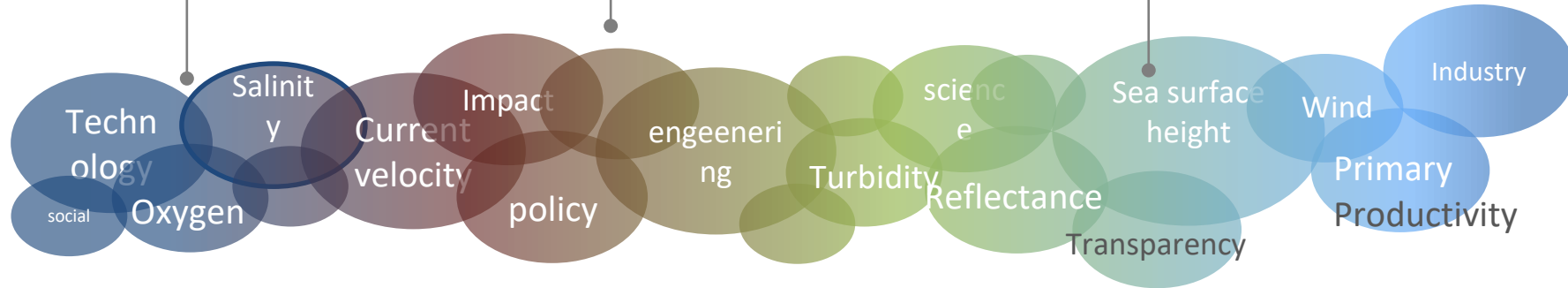
# MAPPING

## INTEGRATING & HARMONISING INFORMATION

FOCUSSING ON EXCELLENCE

PROMOTING COLLABORATIVE RESEARCH

PROMOTE THE USE OF DIGITAL OUTSTANDING SCIENCE



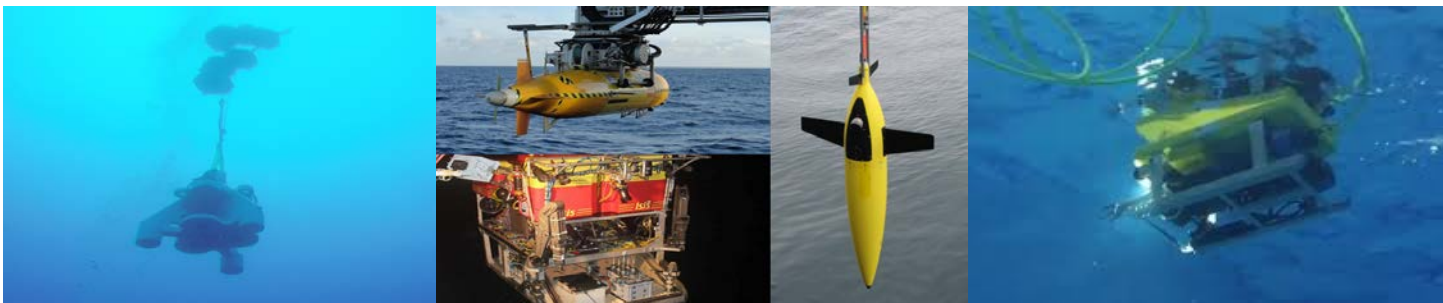
### DELIVERING SERVICES:

- Science
- Data
- Process
- Logistics/testing
- Innovation/Industry

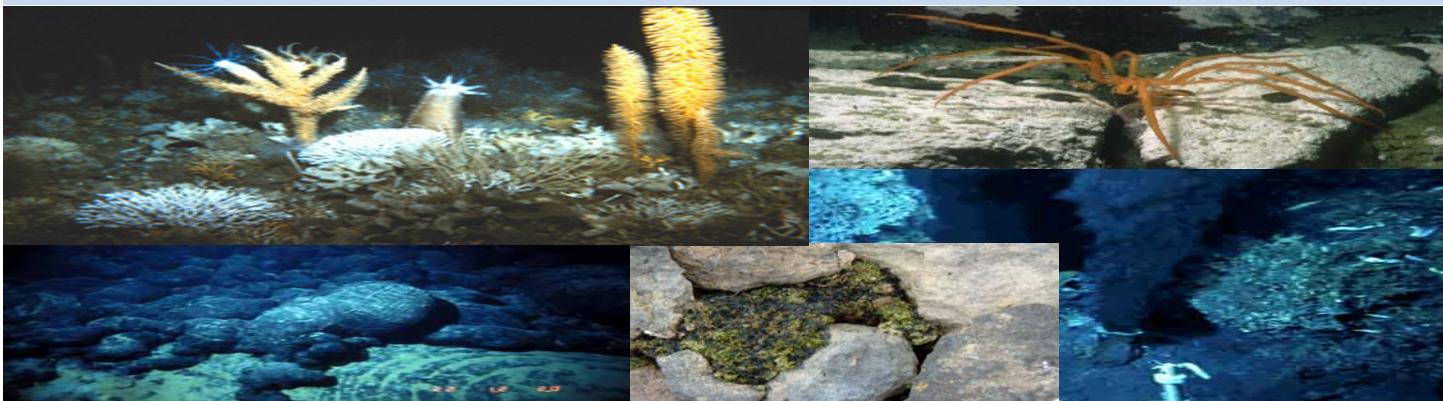
### IMPACT TO THE 9 FP & EUROPEAN SOCIETY DEMANDS

Common Fisheries Policy;  
Habitats Directive;  
Water Framework Directive;  
Maritime Spatial Planning Directive.  
EC Directorate General for Humanitarian  
Aid and Civil Protection





OBSERVING THE OCEAN TO SAVE THE EARTH



Thank you for your attention

[www.emso-eu.org](http://www.emso-eu.org)



The EMSO-Link project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreements N° 731036.

