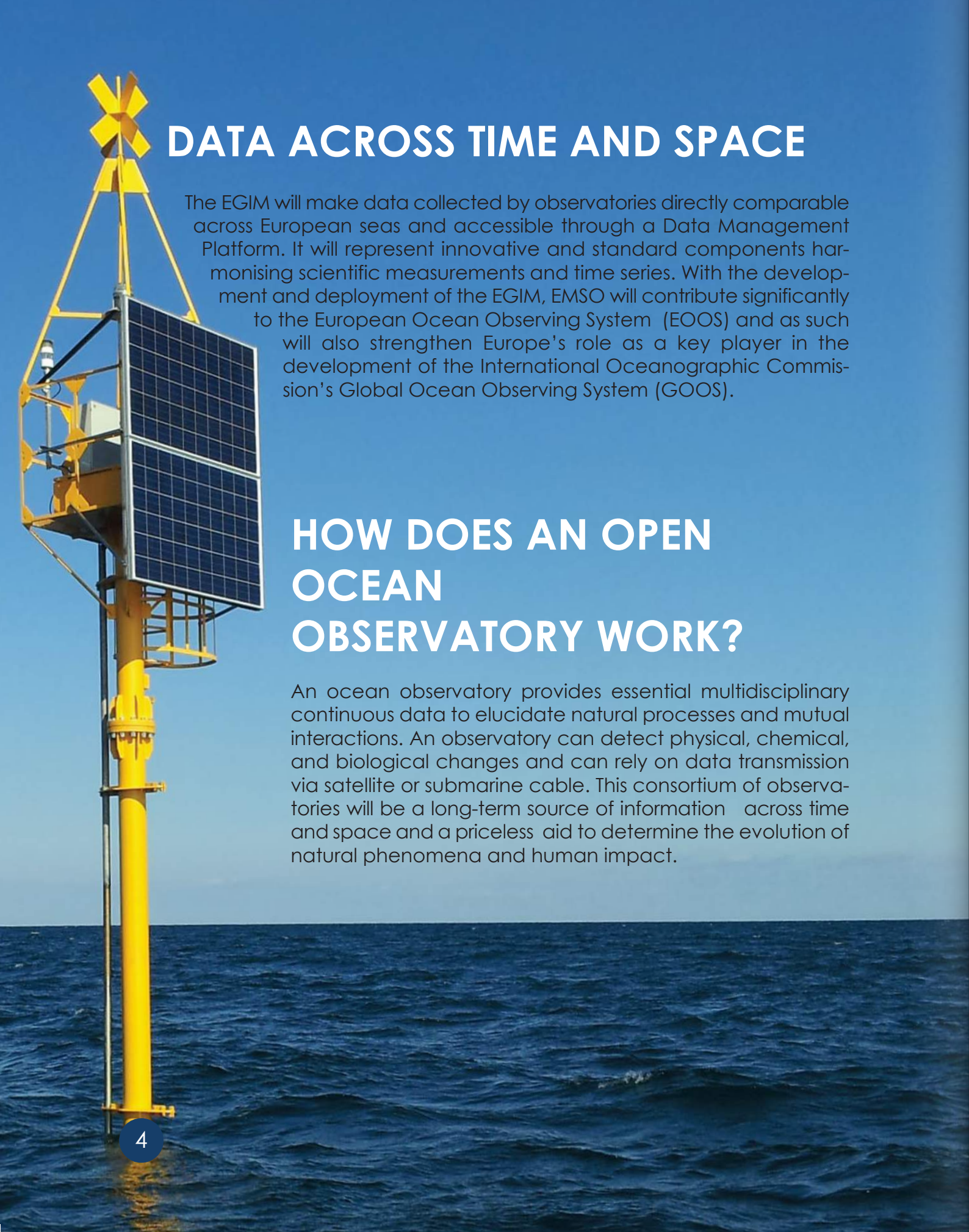


european
multidisciplinary
seafloor and water-column
observatory development



EMSO is a pan-European distributed research infrastructure composed of observatory nodes providing coherent long term data sets to study and monitor European seas. Ocean processes impact human society directly. Changes such as resource availability, climate change, habitat destruction, and geo-hazards have increased society's need for an improved understanding of the driving factors and effects of such changes.

(European Multidisciplinary Seafloor and water-column Observatory DEVELOPMENT) is an H2020 project whose objective is to develop the EMSO Generic Instrument Module (EGIM), a new multi-sensor module that will harmonise essential information collected by open ocean multiparameter observatories of EMSO.



DATA ACROSS TIME AND SPACE

The EGIM will make data collected by observatories directly comparable across European seas and accessible through a Data Management Platform. It will represent innovative and standard components harmonising scientific measurements and time series. With the development and deployment of the EGIM, EMSO will contribute significantly to the European Ocean Observing System (EOOS) and as such will also strengthen Europe's role as a key player in the development of the International Oceanographic Commission's Global Ocean Observing System (GOOS).

HOW DOES AN OPEN OCEAN OBSERVATORY WORK?

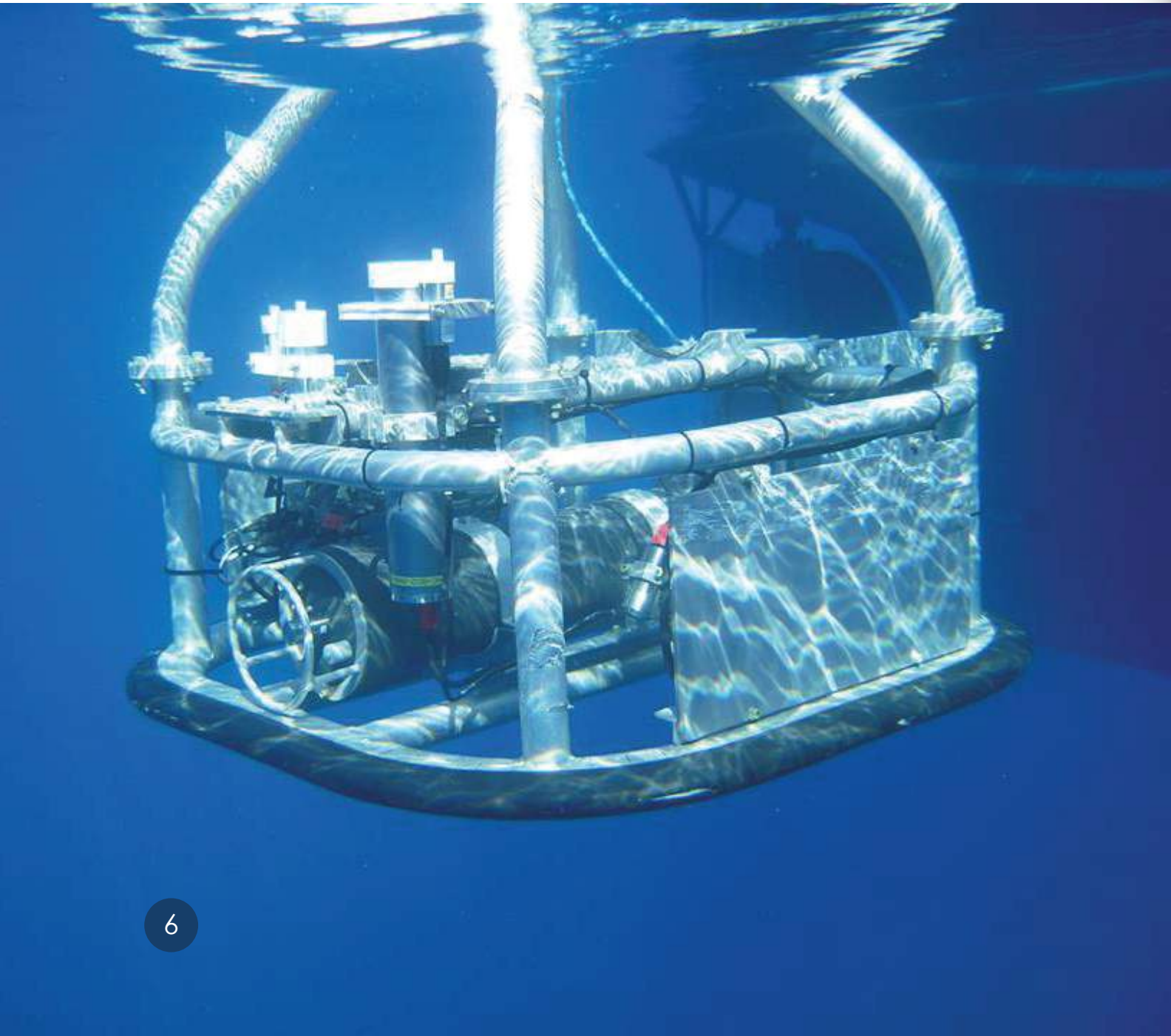
An ocean observatory provides essential multidisciplinary continuous data to elucidate natural processes and mutual interactions. An observatory can detect physical, chemical, and biological changes and can rely on data transmission via satellite or submarine cable. This consortium of observatories will be a long-term source of information across time and space and a priceless aid to determine the evolution of natural phenomena and human impact.

BENEFITS

- Innovative environmental research based on interdisciplinary studies which will facilitate the analysis of the effects of climate change, resource extraction, and pollution in the European ocean.
- A standardised approach for European ocean observatories to support environmental protection policy. This will allow policy makers to more effectively forge policies on the basis of scientific information.
- Given the EGIM's open and modular capacity, it can be offered as an infrastructure capability for monitoring and / or impact assessment in the seafloor mining and oil and gas industries.
- The standardised nature, timely processing and data delivery capability of the EGIM combine to make it effective in geo-hazard deployments such as seismic and tsunami monitoring.
- Easy to use data and data access for anyone, anywhere, regardless of where it is produced.

NETWORKING EUROPEAN SEAS

European researchers consider their marine waters as a whole, with diverse environmental conditions, that are at the same time interconnected. EMSO has already identified eleven deep-sea sites and four shallow water test sites to host nodes of underwater infrastructure, which will be the main network system for the EGIM.



PARTNERS

	STITUTO NAZIONALE DI GEOFISICA E VULCANOLOGIA, Italy
	INSTITUT FRANCAIS DE RECHERCHE POUR L'EXPLOITATION DE LA MER, France
	HELLENIC CENTRE FOR MARINE RESEARCH, Greece
	AGENCIA ESTATAL CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS, Spain
	NATURAL ENVIROMENT RESEARCH COUNCIL – NATIONAL OCEANOGRAPHY CENTRE, UK
	MARINE INSTITUTE, Ireland
	UNIVERSITAET BREMEN (UniHB), Germany
	INSTITUTO PORTUGUES DO MAR E DA ATMOSFERA IP, Portugal
	NATIONAL INSTITUTE OF MARINE GEOLOGY AND GEOECOLOGY, Romania
	SLR ENVIRONMENTAL CONSULTING LIMITED, Ireland
	ENGINEERING - INGEGNERIA INFORMATICA SPA, Italy

THIRD PARTIES

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	UNIVERSITAT POLITÈCNICA DE CATALUNYA, Spain
	EXPANDABLE SEAFLOOR OBSERVATORY, Spain
	THE OCEANIC PLATFORM OF THE CANARY ISLANDS, Spain
	SMARTBAY, IRELAND
	UNIVERSIDADE DO PORTO, Portugal
	ISTITUTO DO MAR, Portugal
	INSTITUTO SUPERIOR TÉCNICO, Portugal
	CENTRO DE INVESTIGAÇÃO TECNOLÓGICA DO ALGARVE, Portugal



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European Multidisciplinary Seafloor and water-column Observatory DEVelopment (EMSODEV)
Coordinator: Istituto Nazionale di Geofisica e Vulcanologia (INGV)
Address: Via di Vigna Murata, 605, 00143 Rome (Italy)
Tel. +39 06 51860428 | Fax +39 06 51860338 | Email: interim.office@emso-eu.org

www.emsodev.eu