



HOW EUROFLEETS2 SUCCEEDED IN FUNDING MARINE RESEARCH AND TRAINING THROUGH COORDINATED ACCESS TO EUROPEAN RESEARCH VESSELS



Eurofleets2

New operational steps towards
an alliance of European research fleets



<http://www.eurofleets.eu>

TRANSNATIONAL ACCESS (TNA): FUNDING ACCESS TO EUROPEAN RESEARCH VESSELS FOR EXCELLENT COLLABORATIVE RESEARCH

Following the successful achievements of the EUROWFLEETS project, the EUROWFLEETS2 Transnational Access (TNA) programme had an even more successful outcome:

EUROWFLEETS

- 18 accessible research vessels (5 global ocean; 13 regional) of 13 flags
- Operated by 16 research vessel operators

EUROWFLEETS2

- 22 accessible research vessels (8 global ocean; 14 regional) of 15 flags
- Operated by 19 research vessel operators

Multinational scientific parties were awarded ship-time after submitting **excellent scientific proposals** to competitive funding calls. EUROWFLEETS2 launched **five newly conceived calls**:

1. THREE TARGETED REGIONAL CALLS

To foster access to research vessels available within specific maritime regions, together covering a wide geographical area including polar and sub-polar areas.

2. ONE SUPER-INTEGRATION CALL

To demonstrate how access to and synergistic use of a combination of European research vessels and a range of scientific equipment leads to excellent science.

3. ONE EQUIPMENT CALL

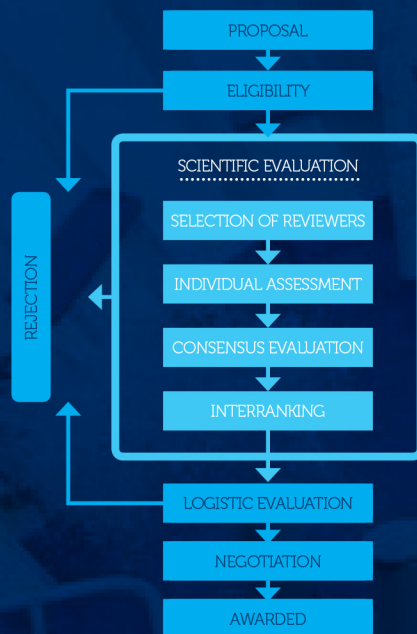
To facilitate the access to mobile or non-permanently embarked equipment and contribute to improved interoperability between equipment and research vessels within Europe.

INTEGRATED PROPOSAL EVALUATION SYSTEM – A MODEL FOR THE FUTURE

The EUROWFLEETS system is based on the proven procedures used in existing evaluation systems and ensures that only excellent proposals are awarded time on-board research vessels.

- Tailored evaluation criteria
- Multinational review panels
- Fostering European and international cooperation
- Training a new generation of marine scientists
- Implemented for 104 received proposals for both projects

THIS INTEGRATED EVALUATION SYSTEM, DEVELOPED UNDER THE UMBRELLA OF BOTH EUROWFLEETS PROJECTS UNDER AWI LEADERSHIP, HAS PROVED TO BE EFFICIENT AND ITS CRITERIA COULD BE USED FOR FUTURE EVALUATION OF EUROPEAN SHIP-TIME CALLS.

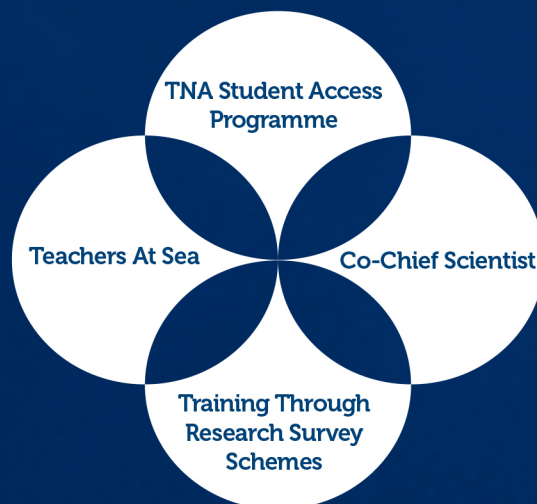


SUCCESSFULLY TRAINING THE NEXT GENERATION OF MARINE SCIENTISTS

EUROFLEETS2 extended the at sea training activities developed in EUROFLEETS and contributed to train the next generation of marine scientists through three complementary initiatives:

1. A FOUR-FOLD PROGRAMME DESIGNED TO BROADEN ACCESS TO RESEARCH VESSELS

- **TNA STUDENT ACCESS PROGRAMME**
148 undergraduate, doctorate and postdoctoral students from 23 nationalities embarked
- **CO-CHIEF SCIENTIST INITIATIVE**
First ever demonstration of how a PhD student could act as co-chief scientist on an international cruise
- **TRAINING THROUGH RESEARCH CRUISE SCHEMES**
Scheduled research cruises used as opportunity to train students
- **TEACHERS AT SEA**
Provided high school teachers with real world, hands-on ocean research experience



2. PREPARATORY TNA WORKSHOPS

To improve the ability of young researchers - in particular from less-equipped countries - to write competitive applications.

3. ON-BOARD TRAINING COURSES AND FLOATING UNIVERSITY

An increasing demand with 51 trained students from European universities for about 400 applications received

RV Urania
Sicily, Mediterranean Sea
Multidisciplinary training course for postgraduate and graduate students in marine sciences

- 6 day course led by CNR (Italy) with MI (Ireland) and OGS (Italy)
- 11 trained students, 9 nationalities, 60+ applications

RV Salme
Baltic Sea
Using new technologies for multidisciplinary oceanographic research.

- 6 day course led by TUT (Estonia) with CNR (Italy) and GEOMAR (Germany)
- 10 trained students, 7 nationalities, 23 applications

RV Bios DVA
Adriatic Sea
Multidisciplinary training course for postgraduate and graduate students in marine sciences

- 12 day course led by IOF (Croatia)
- 12 trained students, 11 countries; 110+ applications

RV Dana
North Sea
Floating university focused on practical aspects of physical, chemical and biological oceanography at sea.

- 7 day course led by DTU-Aqua (Denmark) with OGS (Italy) and MI (Ireland)
- 18 trained students, 8 nationalities, 198 applications

Student nationalities: EU member states 14, other European 1, Africa 2, Asia 2 and America 1

EUROFLEETS, THROUGH THE EXPERIENCE GAINED IN THE DEVELOPMENT AND ORGANISATION OF THESE ON-BOARD TRAINING ACTIVITIES, IS CONSIDERED AS A REFERENCE PROGRAMME INTERNATIONALLY.

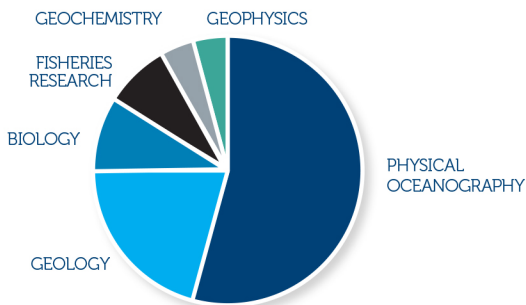
EUROFLEETS BUILT CAPACITY BY PROMOTING ON-BOARD COLLABORATION BETWEEN MARINE SCIENTISTS

EUROFLEETS2 calls generated **significant interest** in the scientific community, with **50 proposals** submitted involving more than **350 European and international partners from 40 nationalities**.

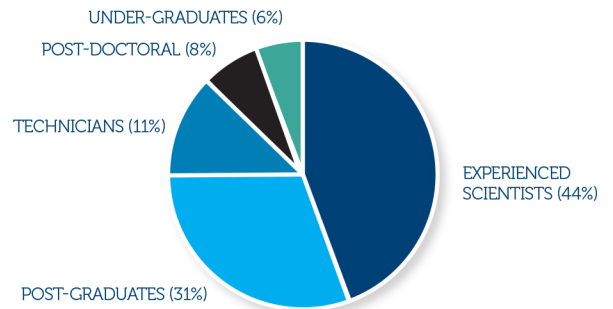
THE 24 SCHEDULED CRUISES GATHERED:

- 2 to 8 nationalities per cruise, 33 nationalities in all
- 498 participants with 33% as remote users
- Embarked scientific parties include 45% of postdoctoral, PhD and undergraduate students recruited by Principal Investigators, and 55% of senior researchers and technicians

Main Scientific Disciplines



On-board teams compositions



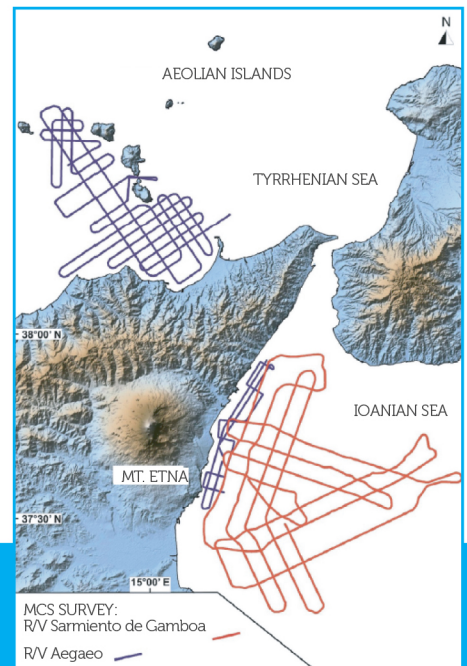
NEW SYNERGIES SUPPORTED BY EUROFLEETS2 SUPER-INTEGRATION CRUISES

The MEDSUV.ICES cruise was a major contribution to the TOMO-ETNA experiment carried out as part of the FP7 MEDiterranean SUPersite Volcanoes (MED-SUV) project.

In addition to Italian and Spanish national funding and the involvement of two vessels from the Italian Navy, EUROFLEETS2 granted MED-SUV 28 days at sea on-board two research vessels (CSIC's Sarmiento de Gamboa and HCMR's Aegeao).

The four vessels deployed a wide range of seismic equipment including ocean-bottom seismographs, marine air-guns, multi-channel seismic (MCS) systems, and remotely operated vehicles (ROV).

A new high-resolution seismic tomography was produced allowing a better understanding of the structure of the Earth's crust beneath the Mount Etna volcano, Sicily and the Aeolian Islands in the Mediterranean Sea.



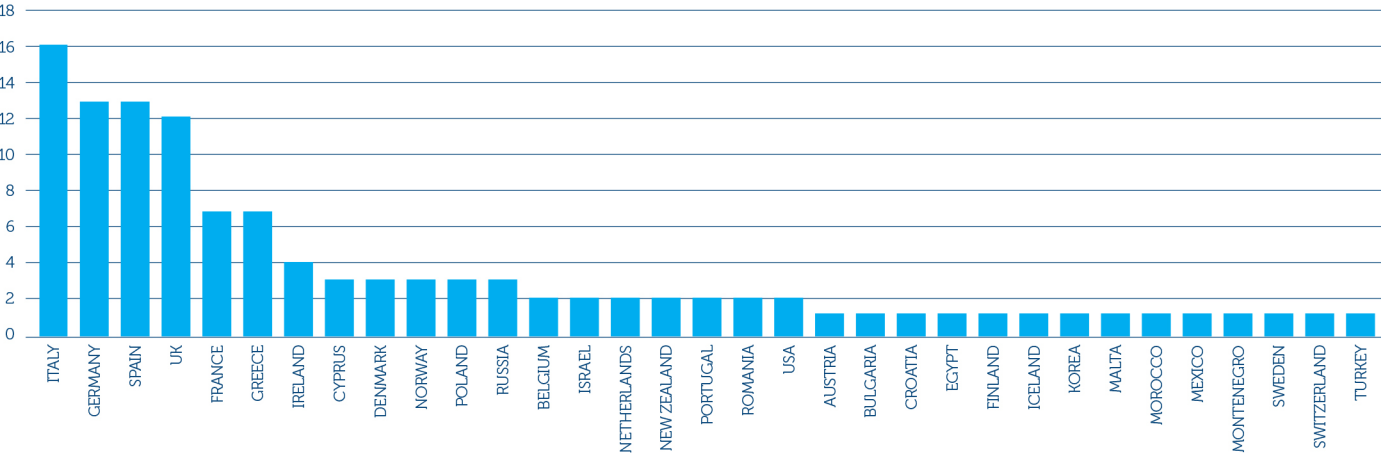
MED-SUV area of study

Equipment deployed during the MED-SUV cruise Air-guns being submerged off Sicily

EUROFLEETS2 FUNDED 24 SCIENTIFIC CRUISES REPRESENTING 233 DAYS AT SEA



MULTINATIONAL COLLABORATION INDICATOR
NUMBER OF EUROFLEETS2 CRUISES VERSUS NATIONALITY OF PARTICIPANTS



WORKING AREA	RESEARCH VESSEL (Operator)	CRUISE ACRONYM	CRUISE/PROPOSAL FULL TITLE	PI NATIONALITY
ARCTIC AND SUB-ARCTIC	G.O. Sars (IMR)	POLAR PLASTICS	Distribution of microplastics in high latitude marine waters	Ireland
	Polarstern (AWI)	BURSTER	Bottom cURrents in a STagnant EnviRonment	Italy
	G.O. Sars (IMR)	PREPARED	PREsent and Past flow REgime on contourite Drifts west of Spitsbergen	Italy
	Sanna (GINR)	ORCA	Oceanic Response, Controls and Attribution: west Greenland fjord circulation and accelerating glacier discharge	The Netherlands
	Magnus Heinason (FAMRI)	BENTHABICELAND	BENThic HABitats in ICELAND shrimp trawl grounds	United Kingdom
BALTIC SEA	Salme (TUT)	PROSID2014	PROpagation of the Saltwater INflow from December 2014	Germany
ATLANTIC OCEAN	Celtic Voyager (MI)	MULLET	MULTiple Level Effects of Trawling	United Kingdom
	Celtic Explorer (MI)	DEEPMAP	Mapping the deep: the application of predictively modelled maps to European spatial planning	United Kingdom
	OGS Explora (OGS)	PROPEL	PROpagation of the Eurasia-Africa pLate boundary East of the Gloria Fault	Portugal
	L'Atalante (Ifremer)	GRACO	GRAvitational and COntouritic interactions on the upper slope of the Gulf of Cadiz close to the Straits of Gibraltar	Spain
MEDITERRANEAN SEA	Sarmiento de Gamboa (CSIC) Aegaeo (HCMR)	MED-SUV.ISES	MEDiterranean SUPersite Volcanoes. Integration of on-shore and off-shore passive and active Seismic Experiments in South Italy	Italy
	ROV Max Rover (HCMR)	IRIS	In situ ROV characterization of seismogenic faults in the Alboran Sea	Spain
	Angeles Alvarino (IEO)	TAIPRO-2016	Tyrrhenian Sea & Algero-Provençal component of the MedSHIP programme	France
	Aegaeo (HCMR)	CRELEV2016	Cretan Sea and Levantine Basin Med-SHIP investigation in 2016	Italy
	Angeles Alvarino (IEO)	ISLAND	Exploring Sicilian cAnyoN Dynamics	United Kingdom
	Minerva Uno (CNR)	LGT GIOIA-77	Unravelling the complex dynamics of a human-induced landslide which generated the Gioia 1977 tsunami	Greece
	Aegaeo (HCMR)	LGT AMORGOS-56	LGT AMORGOS-56: Finding and studying the earthquake-induced landslide which generated the Amorgos 1956 tsunami	Italy
	Minerva Uno (CNR)	PANTHER	PANTelleria High-energy ERuptions from marine studies	United Kingdom
	Bios DVA (IOF)	ESAW	Evolution and spreading of Southern Adriatic Waters (a component of the MedSHIP programme)	Italy
BLACK SEA	Akademik (IO-BAS)	BIO-OPT	BIO-OPTics for ocean colour remote sensing of the Black Sea (follow up of a EUROFLEETS funded cruise)	Turkey
	Mare Nigrum (GeoEcoMar)	RECORDED	Reconstructing the changing impact of the Danube on the Black Sea and Coastal Region	United Kingdom
	Hesperides (CSIC)	PHARMADEEP	New PHARMAceuticals from the DEEP Antarctic	United Kingdom
ANTARCTIC	OGS Explora (OGS)	ANTSSS	ANTarctic ice Sheet Stability from continental Slope process investigation	United Kingdom

FEEDBACK FROM PRINCIPAL INVESTIGATORS OF EUROFLEETS2 CRUISES



CLAUDIO LO IACONO (NATIONAL OCEANOGRAPHY CENTRE, UK)

"Wonderful experience with great interaction between people from many different countries and eight institutes. From PhD students to experienced scientists, everybody was united by the pleasure of working at sea through a **multidisciplinary approach**."

ISLAND cruise: 8 nationalities within the scientific party



ALAN J. JAMIESON (UNIVERSITY OF ABERDEEN, UK)

"A variety of researchers in pharmaceutical development, marine biology and geology, microbiology and technology who otherwise would never gather were brought together and sent out to sea."

PHARMADEEP cruise: 4 nationalities within the scientific party



LAURA DE STEUR (NIOZ, THE NETHERLANDS)

"Since there is such limited availability of vessels for Arctic research, it was great to have access and to be able to work on-board the excellent RV Sanna. The data set collected in Greenland fjords is **unique in a kind**."

ORCA cruise: 3 nationalities within the scientific party



AMY LUSHER (GALWAY-MAYO INSTITUTE OF TECHNOLOGY, IRELAND)

"Apart from allowing me to get the fundamental data for my PhD, the cruise also helped me to learn a lot on how large research surveys are carried out, to meet brilliant researchers and to launch the seeds of future collaborations. The collected data will be **invaluable in the microplastics community**."

POLARPLASTICS cruise: A co-chief scientist initiative carried out in collaboration with the PREPARED multidisciplinary cruise



RENATA LUCCHI (OGS, ITALY)

"Sailing with a multicultural research group of 13 students and 23 scientists from 14 research institutions, a teacher (EGU-GIFT programme) and a technician from a SME was such a great way to know more about an **unrevealed environment**. Promising results will be the base for the writing of a major international project."

BURSTER cruise: 8 nationalities within the scientific party



KIRSTY KEMP (ZOOLOGICAL SOCIETY OF LONDON, UK)

"This great expedition supported the effective management and conservation of ecological systems under exploitation as well as launched **new research partnerships**."

BENTHABICELAND cruise: This PI had a first proposal funded under the EURO-FLEETS scheme



LOIC JULLIEN (MEDITERRANEAN INSTITUTE OF OCEANOGRAPHY, FRANCE)

"The collaborative scheme brought together experts from four European countries allowing the collection of state-of-the-art data that will be **freely available to the community**. This cruise, together with two other cruises funded by EUROFLEETS2 (CRELEV-2016 and ESAW), will be the corner stone of the Mediterranean repeat hydrographic survey programme MedSHIP."

TAIPRO cruise: 4 nationalities within the scientific party



EULÀLIA GRÀCIA (CSIC, SPAIN)

"A great experience that allowed the interaction of researchers from different countries with varied scientific backgrounds who all share the same vision to move forward a **multidisciplinary approach to scientific problems**."

IRIS cruise: 4 nationalities within the scientific party

EUROFLEETS2 BENEFICIARIES

- Ifremer - French Research Institute for Exploitation of the Sea, France
- AWI - Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research, Germany
- OGS - National Institute of Oceanography and Experimental Geophysics, Italy
- IEO - Spanish Institute of Oceanography, Spain
- HCMR - Hellenic Center for Marine Research, Greece
- CNR - National Research Council, Italy
- GeoEcoMar - National Institute of Marine Geology and Geo-ecology, Romania
- MI - Marine Institute, Ireland
- CSIC - Spanish National Research Council, Spain
- RBINS - Royal Belgian Institute of Natural Sciences, Belgium
- IOPAN - Institute of Oceanology of the Polish Academy of Sciences, Poland
- IPEV - French Polar Institute Paul-Emile Victor, France
- IO-BAS – Institute of Oceanology – Bulgarian Academy of Sciences, Bulgaria
- MARUM - University Bremen - Center for Marine Environmental Sciences, Germany
- MARIS - Marine Information Service, The Netherlands
- EurOcean - EurOcean Foundation, Portugal
- TUT - Tallinn University of Technology, Estonia
- VLIZ - Flanders Marine Institute, Belgium
- IMR - Institute for Marine Research, Norway
- DTU-AQUA - Technical University of Denmark, Denmark
- SPRS - Swedish Polar Research Secretariat, Sweden
- TÜBİTAK - Scientific and Technological Research Council, Turkey
- ESF - European Science Foundation, France
- GINR - Greenland Institute of Natural Resources, Greenland
- FAMRI - Faroe Marine Research Institute, Faroe Islands
- IOF - Institute of Oceanography and Fisheries, Croatia
- UNIZG-FER - Faculty of Electrical Engineering and Computing, University of Zagreb, Croatia
- UdG - University of Girona, Spain
- DFKI - German Research Centre for Artificial Intelligence, Germany
- PROLLION - Prollion, France
- SHIPS - Ship Studio SARL, France

PROJECT NAME: New operational steps towards an alliance of European research fleets

PROJECT ACRONYM: EUROFLEETS2

GRANT AGREEMENT NO: 312762

FUNDING SCHEME (FP7): Combination of Collaborative Projects (CP) and Coordination and Support Actions (CSA) for Integrating Activities (IA)

EU FINANCIAL CONTRIBUTION: €9 million

DURATION: 52 months

START DATE: 01 March 2013

COMPLETION DATE: 30 June 2017

PROJECT COORDINATION: Valérie Mazauric and Jacques Binot, Ifremer

E-mail: eurofleets2@ifremer.fr

