Eurofleets+

Coordinator: Marine Institute, Ireland

Aodhan Fitzgerald
Research Vessel Manger
Marine Institute
Proposal Co-Ordinator

An ‘advanced community’ proposal following on from EF1 and EF2

In response to *H2020-INFRAIA-2018-2020* call

Duration 4 years: 2019-2023

Status: Proposal submitted March 2018 – fingers crossed for a successful result!

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Eurofleets+ Objectives

- Open access to an advanced research vessel fleet; **27 research vessels**, **7 ROVs, 5 AUVs,** and a **telepresence unit**
  - Enable researchers to access the **North Atlantic**, **Mediterranean**, **Black, North** & **Baltic** Seas, **Pacific Southern Ocean** and **Ross Sea**
- Give priority to research proposals on sustainable, clean and healthy oceans
- Engage with stakeholders including ocean observation infrastructures, policy makers, industry and academia - work package dedicated to this
- Support innovation through working closely with industry in joint research activities
- Train & Educate – emerging scientists, technicians, managers, general public

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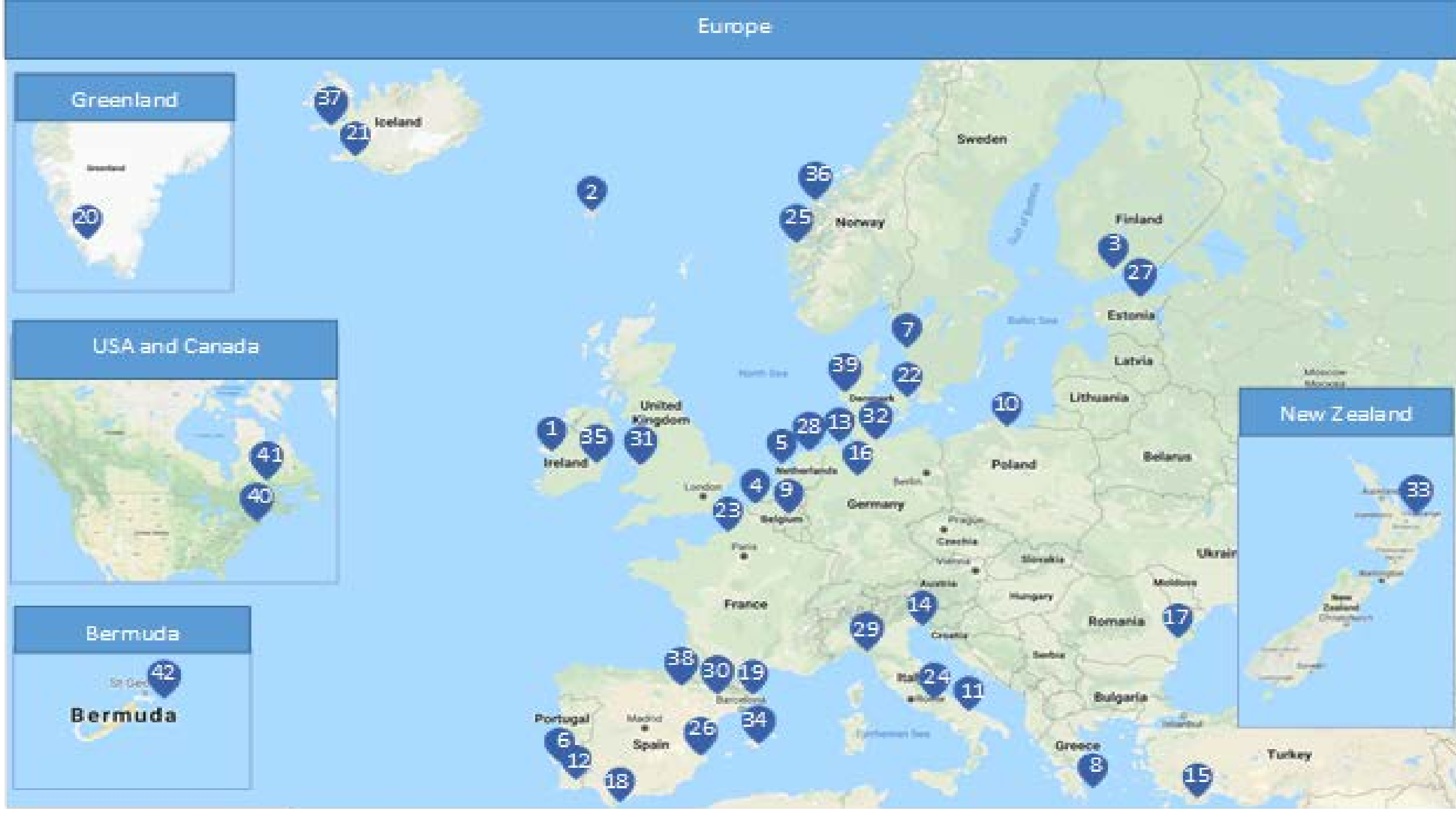
No.	Participant organisation name	Short name	Country
1	Marine Institute (Coordinator)	MI	Ireland
2	Havstovan	HAVST	Faroe Islands
3	Suomen Ymparistokeskus	SYKE	Finland
4	Vlaams Instituut Voor De Zee Vzw	VLIZ	Belgium
5	Mariene Informatie Service Maris BV	MARIS	The Netherlands
6	Fundação EurOcean	EUROCEAN	Portugal
7	Goeteborgs Universitet	UGOT	Sweden
8	Hellenic Centre for Marine Research	HCMR	Greece
9	Institut Royal des Sciences Naturelles de Belgique	RBINS	Belgium
10	Instytut Oceanologii Polskiej Akademii Nauk	IOPAN	Poland
11	Consiglio Nazionale Delle Ricerche	CNR	Italy
12	Instituto Portugues do mar e da Atmosfera IP	IPMA	Portugal
13	Alfred-Wegener-Institut, Helmholtz Zentrum fuer Polar-und Meeresforschung	AWI	Germany
14	Istituto Nazionale di Oceanografia e di Geofisica Sperimentale	OGS	Italy
15	Turkiye Bilimsel Ve Teknolojik Arastirma Kurumu	TUBITAK	Turkey
16	Univeritaet Bremen	UB	Germany
17	Institutul National de Cercetare-Dezvoltare Pentru Geologie si Geoecologie Marina-Geoecomar	GEOECOMAR	Romania
18	Instituto Espanol de Oceanografia	IEO	Spain
19	Universitat de Girona	UdG	Spain
20	Gronlands Naturinstitut	GRONLANDS	Greenland
21	Hafrannsoknastofnunin	HAFRA	Iceland
22	Danmarks Tekniske Universitet	DTU	Denmark
23	Institut Francais De Recherche Pour L'Exploitation De La Mer	IFREMER	France
24	European Multidisciplinary Seafloor and Water Column Observatory - European Research Infrastructure Consortium	EMSO ERIC	Italy
25	Havforskningsinstituttet	HAVFO	Norway
26	Agencia Estatal Consejo Superior Deinestigaciones Cientificas	CSIC	Spain
27	Tallinna Tehnikaulikool	TUT	Estonia
28	Stichting Nioz, Koninklijk Nederlands Instituut Voor Onderzoek Der Zee	NIOZ	Netherlands
29	NATO Science and Technology Organisation	NATO-CMRE	Belgium
30	Coronis Computing S.L.	CORONIS	Spain
31	Blue Lobster IT Limited	BLIT	UK
32	Helmholtz Zentrum Fur Ozeanforschung Kiel	GEOMAR	Germany
33	National Institute of Water and Atmospheric Research	NIWA	New Zealand
34	SOCIB - Consorcio Para El Diseno, Construccion, Equipamiento Y Explotacion Del Sistema De Observacion Costero De Las Illes Balears	SOCIB	Spain
35	VoyagerIP International Services Limited	VIP	Ireland
36	Seaonics AS	SEAONICS	Norway
37	Hampidjan HF	HAMPIDJAN	Iceland
38	IQUA Robotics	IQUA	Spain
39	MacArtney A/S	MacDK	Denmark
40	The Global Foundation for Ocean Exploration, Inc	GFOE	United States
41	Universite du Quebec a Rimouski	UQAR	Canada
42	Bermuda Institute of Ocean Sciences (BIOS), Inc.	BIOS	Bermuda

The Consortium

- 42 Partners
- New participants providing Transnational access including New Zealand, Canada, USA, Bermuda, Finland
- good geographical spread including key areas of Scientific Interest
- Many new Industry partners also including SMEs


Europe
Greenland
Greenland
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USA and Canada
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Bermuda
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Bermuda
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Norway
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Latvia
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United Kingdom
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Bulgaria
Portugal
Madrid
Spain
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Greece
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Turkey
New Zealand
33
New Zealand

No.	Vessel Name	Length M	Deep Water Multi-Beam	High Resolution Multi-Beam	Deep-water Seismic	Shallow Water Seismic	USBL	Dynamic Positioning	ROV/AUV Host	Full Ocean CTD	Clean CTD	Deep-water Coring	ICES 209/Silent	PCO2	ADCP	Fisheries echosounder	Special Features
1	Celtic Explorer	65.5	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓
2	New Magnus Heinason	44.5	✓				✓	✓	✓	✓			✓		✓	✓	✓
3	Aranda	59.2			✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓
4	Simon Stevin	36.3		✓		✓		✓	✓				✓	✓	✓		
5	Skagerak	38.1		✓		✓	✓	✓	✓						✓		✓
6	Aegaeo	61.5	✓		✓					✓		✓			✓		✓
7	New Belgica	50.9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
8	Mar Portugal	72.55						✓	✓								
9	OGS Explora	65.4	✓	✓	✓	✓											
10	TUBITAK MARMARA	40	✓	✓		✓		✓	✓	✓					✓		✓
11	MARE NIGRUM	82	✓		✓					✓		✓					
12	Ramon Margalef	47.3	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		✓	✓	✓
13	Angeles Alvarino	46.7	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		✓	✓	✓
14	Sanna	32.35		✓												✓	✓
15	Arni Freidrickson	69.9	✓		✓	✓				✓			✓		✓	✓	✓
16	Dana	78.43								✓					✓	✓	✓
17	Thalassa	74.5	✓	✓			✓	✓	✓	✓			✓	✓	✓	✓	✓
18	L'Europe	29.6		✓					✓						✓	✓	
19	G.O .SARS	77.5	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		✓	✓	✓
20	Sarmiento de Gamboa	70.5	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		✓	✓	✓
21	Pelagia	66.07	✓				✓	✓	✓	✓	✓	✓			✓		✓
22	Alliance	93	✓				✓	✓	✓	✓			✓		✓		✓
23	Alkor	55.2							✓	✓							
24	Tangaroa	70	✓	✓	✓	✓	✓	✓	✓	✓		✓			✓	✓	✓
25	SOCIB	23.62						✓	✓						✓		
26	Coriolis	49.95	✓	✓	✓	✓	✓	✓	✓			✓			✓		
27	Atlantic Explorer	51.8				✓				✓					✓		

Atlantic Region Vessels - expanded Transnational access

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Key Focus on **Atlantic** area with new international partners supporting current Atlantic objectives - **AORA** (Atlantic Ocean Research Alliance), **AtlantOS** (Atlantic Ocean Observing Systems)

Mediterranean, Black Sea, Baltic fleets

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Over 280 days of ship access will be provided enabling over 4000 scientist days at sea…..

5 AUVs

Country	Institution	Name	Class	Depth Rating
Belgium	VLIZ	VLIZ AUV	Autonomous underwater Vehicle (AUV)	1000m
Sweden	University of Gothenburg	Hugin 3000	Autonomous underwater Vehicle (AUV)	3000m
Norway	HI	Hugin AUV	Autonomous underwater Vehicle (AUV)	3000m
France	IFREMER	AsterX	Autonomous underwater Vehicle (AUV)	2850m
Italy	CNR	Teresa	Autonomous underwater Vehicle (AUV) (Glider)	1000m

7 ROVs

Country	Institution	Name	Class	Depth Rating
Ireland	MI	Holland 1	Workclass ROV	3000/4000m (2020)
Belgium	VLIZ	Genesis ROV	Light workclass ROV	2000m
Sweden	University of Gothenburg	Ocean Modules V8 offshore	Light workclass ROV	3000m
Germany	UB	Marum Squid	Light workclass ROV	2000m
France	IFREMER	Ariane	ROV (Hybrid ROV)	2450m
Portugal	IPMA	ROV LUSO	Workclass ROV	6000m
Norway	HI	Ægir 6000	Workclass ROV	6000m

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Over 140 days of ROV/AUV availability.

Telepresence Unit - New enabling technology providing remote access - can be used for scientific, training and outreach

'allows for an unlimited number of science participants to be engaged in an expedition, thus decreasing the resources required to send multiple people to sea. The public can also experience what it's like to be part of an oceanographic expedition'

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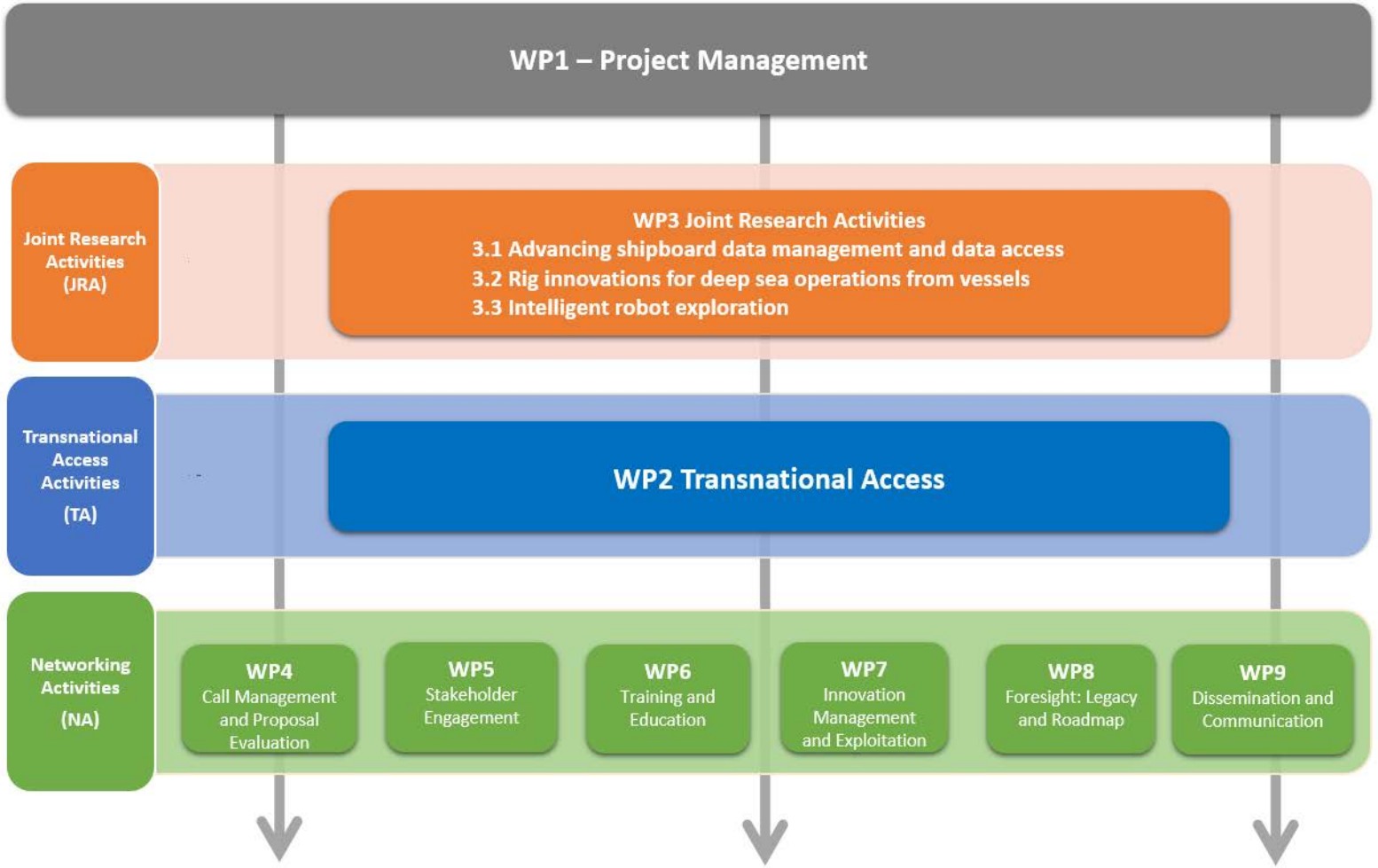
Work Programme



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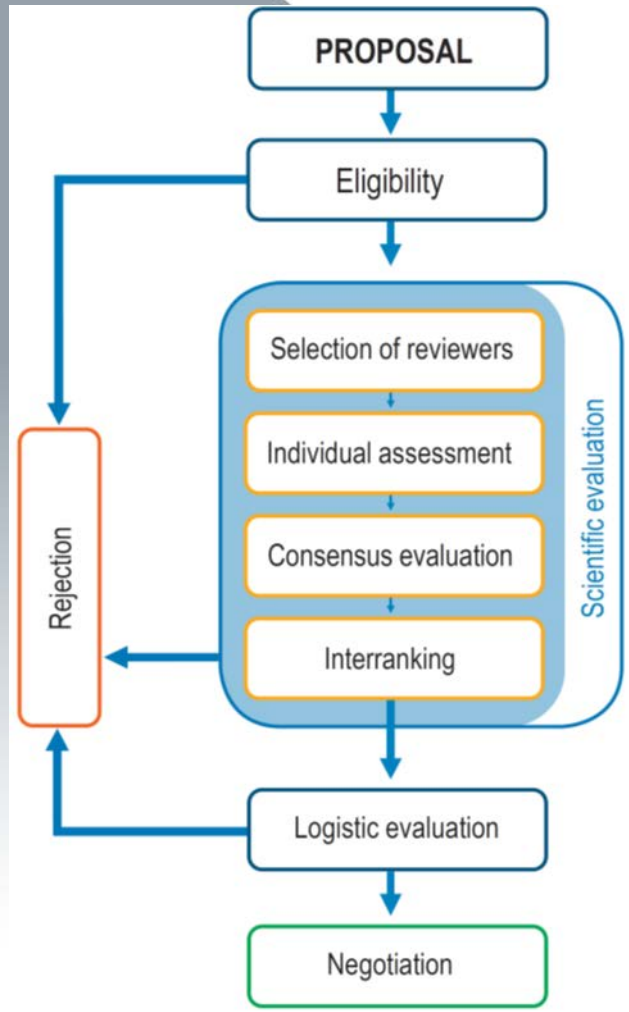
Work package	Name/Description	WP Leader
WP1	Project Management	MI
WP2	Transnational and Virtual Access	MI
WP3	Joint Research Activities	CSIC
WP4	Call Management & Proposal Evaluation	AWI
WP5	Stakeholder Engagement	EMSO ERIC
WP6	Training and Education	OGS
WP7	Innovation Management and Exploitation	RBINS
WP8	Foresight Legacy and Roadmap	CNR
WP9	Dissemination and Outreach	EUROCEAN

Transnational access

Proposal Evaluation Cycle



- Research Vessels (13 Global/Ocean and 14 Regional) – available with full suite of scientific equipment, crew, technicians, logistical support etc
- 7 ROVs including portable and 6000m systems (available stand-alone or with 'mother' ship depending on availability)
- 5 AUVs with technical support and access to data
- **Call Format :**
- **1) Ship-time and Marine Equipment Application (SEA programme)** for access to the vessels and marine equipment through a full ship-time application, for which there will be a minimum of two Calls.
- **2) Co-PI programme** specifically aimed at early career researchers to implement their own research together with experienced scientists in Eurofleets+ scheduled cruises.
- 3) **Remote Transnational Access (RTA programme)** to provide researchers with remote access to samples or data from a Eurofleets + fleet vessel. RTA programme applications will be submitted in a continuous running Call

CORONIS COMPUTING
Computer Vision and Machine Learning

iqua

Voyager IP
Marine Broadband Service and Solutions

GLOBAL FOUNDATION FOR OCEAN EXPLORATION

Joint Research Activities - objectives

- Developing new tools and technologies to support deep water operations (McCartney, Seaonics, HAMPIÐJAN)
- New AUV/ASV technologies (Aqua Robotics, Coronis)
- Optimizing solutions for telepresence and real-time data transfer (e-access) (Voyager IP, GFOE)
- Review and upgrade the suite of shipboard software and services
- Improve access to acquired data (Maris)

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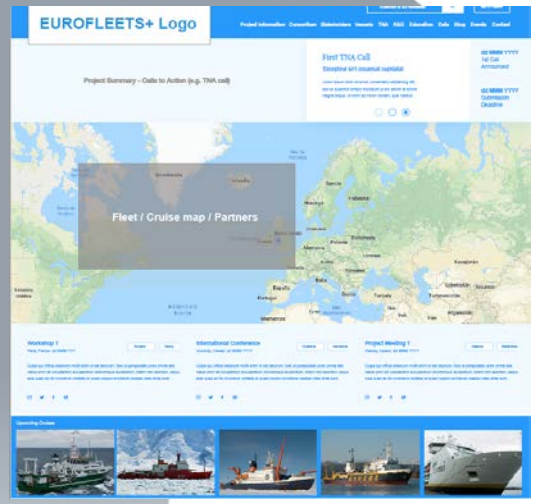
SEAONICS™

HAMPIÐJAN

MacArtney
UNDERWATER TECHNOLOGY



Networking Activities

- Long term Transnational access - a road map for research vessel co-ordination in Europe
- Focus on stakeholder needs including deep ocean research, Ocean mapping and observation communities
- Training and Education including themed Floating Universities, dedicated training labs for scientists, technicians and managers
- Dissemination and Outreach including new website, Portal, use of Telepresence system for Ocean Literacy

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Thank you!

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