

An aerial photograph of the ocean showing white-capped waves breaking against a dark teal background. The waves are arranged in a roughly parallel pattern, creating a sense of movement and depth. The top of the image is framed by a decorative wave graphic with blue and orange accents.

Annual Activities 2018

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Annual Activities

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List of Acronyms

AISBL- International non-profit association under Belgian law (Association Internationale Sans But Lucratif)

CSA Oceans 2- CSA Oceans 2 is an Horizon 2020 funded project which supports the implementation of JPI Oceans' Strategic Research and Innovation Agenda.

JPI- Joint Programming Initiative

JPI Oceans- Joint Programming Initiative for Healthy and Productive Seas and Oceans

MB- Management Board of JPI Oceans

SRIA- Strategic Research and Innovation Agenda



CHAPTER 1

Our Activities

Workshops on munition in the sea

Two workshops in Rome and Oslo supported the further development of the JPI Oceans Joint Action on "Munition in the sea". Both workshops were focused on the role of research in finding solutions concerning dumped munitions in the marine environment.



WORKSHOP: SCIENTIFIC SUPPORT TO MUNITION IN THE SEA, HOSTED BY NATIONAL RESEARCH COUNCIL OF ITALY (CNR) IN ROME IN DECEMBER 2018.

The Research Council of Norway and the Norwegian Defense Research Establishment (FFI) hosted a workshop in Oslo in June 2018. The workshop was organised around a scenario which envisages a pipeline or cable from the coast and across the sea bed. Because of the bottom topography, the trajectory has to pass through a known dump site for ammunition. In other areas, the risk of encountering explosive war remnants is not known. The depth ranges from 10-50 m close to the coast to several hundred meters at high sea with a seafloor consisting partly of soft sediment, partly of hard rock. The outputs of this exercise were transferred beyond the specific of this scenario to a more general level of considering risk assessments, remediation options and spatial planning.

Based on the outcomes of the Oslo workshop, the National Research Council of Italy (CNR) organized a workshop, which addressed some major aspects for which research can bring substantial contributions for solutions or advances in knowledge. Specifically, four key aspects were addressed: knowledge-based support to decisions, large-

scale identification of objects, sensing and remediation of chemicals, and cost-efficient explosions remediation. The workshop featured one day of keynote speeches and four parallel sessions to debate how available scientific results or advances in knowledge can inform solutions. The second day was focused on open discussions between experts and representatives of the JPI Oceans Management Board to elaborate on future implementation steps. The workshop was supported by the CSA Oceans 2 project, funded by the European Union's Horizon 2020 Research and Innovation Program, under the Grant Agreement No.696324.

The outputs of the two workshops were presented at the JPI Oceans Seminar and to the Management Board meeting, held in Brussels on 17 and 18 January 2019, respectively. Management Board members asked experts to prepare a final "operational" proposal of joint activities, specifying which funding instruments are considered appropriate, in order to evaluate the required commitments from member countries.

Ecological aspects of microplastics – results projects

How does plastic degrade in the ocean? What effects does it have on organisms and ecosystems? Do particles carry other pollutants? And how to standardise the way we study microplastics? On 20 November, the research projects BASEMAN, WEATHER-MIC, EPHEMARE and PLASTOX presented the key findings of their almost three years of investigation at a dedicated day alongside the MICRO2018 conference on Lanzarote.

In front of approximately 150 participants, the four projects, which have been running since January 2016 and were jointly funded by ten JPI Oceans member countries, outlined and discussed their main scientific outputs, publications and reports.



GUNNAR GERDTS, BASEMAN PROJECT

The presentations were followed by discussions on topics that all four projects had addressed or delivered some inputs on. These comprised the standardisation of methods, the weathering and degradation of microplastics, their ecotoxicological impacts on marine organisms, as well as the role of additives and adsorbed pollutants. The detailed project results will be published in 2019 in the form of final reports after the conclusion of the projects. It was evident, however, that not all relevant research questions have been addressed by the four projects. In particular, the knowledge and understanding of smaller microplastic particles (from 10 µm to very small nanoparticles) remained limited.



TIM EDER, GERMAN FEDERAL MINISTRY OF EDUCATION AND RESEARCH (BMBF)

The final session of the day was co-organised with the Marine Strategy Framework Directive Technical Subgroup on Marine Litter. Georg Hanke (European Commission Joint Research Centre) presented the ongoing work of their position paper on microlitter monitoring to which all four projects have substantially contributed, and led a discussion on several open questions. The meeting was closed by the launch of the second JPI Oceans joint call "Sources, distribution and impact of microplastics in the marine environment", which fifteen countries launched with a budget of EUR 10.5 million. The projects will run for 36 months and are planned to start in January 2020.

BlueBio ERA-NET Cofund

The BLUEBIO ERA-NET Cofund started its work in 2018. It is the result of a collaboration between JPI Oceans and the former ERA-NETS COFASP and ERA-MBT and consists of 27 partners from 16 countries. The main objective of the Cofund is to establish a coordinated Research & Development funding scheme that will strengthen Europe's position in the global development of the blue bioeconomy.

The first co-funded call was launched on 17 December 2018. The COFUND partners have committed EUR 23.25 million, resulting in a total budget of EUR 29.25 million including EUR 6 million co-funding from the European Commission.

Projects are expected to explore innovative, yet sustainable and climate-friendly utilisation of aquatic biomass at different trophic levels, as well as sustainable harvesting and novel aquaculture production systems targeting a range of existing or new markets, products (food, feed, chemistry, nutraceuticals, cosmetics, etc. applying a food first principle). The ultimate aim is to create, test, upscale and bring to the market new knowledge-intensive products and services derived from a diversity of aquatic biomass. Projects are expected to focus on aquatic biomass of marine or freshwater origin but also seek synergies with land-based production.

The proposals are expected to seek to be complementary

with or adding to other projects funded under Horizon 2020, or other funding schemes, both ongoing and recently finished. Proposed projects are expected to also demonstrate industry involvement. Proposals will be evaluated and selected in a two stage process.

Priority areas:

- 1: Exploring new bio-resources
- 2: Exploring improvements in fisheries and aquaculture
- 3: Exploring synergies across sectors
- 4: Exploring Biotechnology and ICT technologies.

The following partner countries have provided funds to the call: Belgium, Croatia, Denmark, Estonia, Finland, Germany, Greece, Iceland, Ireland, Italy, Malta, Norway, Portugal, Romania, Spain, and Sweden.

New MiningImpact project

Gathering 32 partners from 10 different countries the new MiningImpact project started in September 2018. The project is conducting an independent scientific monitoring of the impact of an industrial test to harvest manganese nodules in the Clarion Clipperton Zone.



DR. MATTHIAS HAECKEL WITH KRISTIN HAMANN. PHOTO: STEFFEN NIEMANN.

The MiningImpact project is following up on the results of the first JPI Oceans supported Pilot Action which had been

concluded in late December 2017. While the initial project investigated experimental and rather small disturbances of the seafloor over decadal timescales, the new project is about setting up a comprehensive monitoring programme to ensure an independent scientific investigation of the environmental impacts of an industrial component trial of a nodule collector system by the Belgian contractor DEME-GSR. Polymetallic nodules are mainly composed of manganese and iron oxides, but also contain economically valuable metals, such as nickel, copper, cobalt, lithium, and rare earth elements.

A kick-off event of this action took place on 19 and 20 September with one day reserved for scientific exchange and one day for stakeholder information. The project will run until February 2022. At the core of the next phase is a

are two RV Sonne cruises to the Clarion Clipperton Zone in February and May 2019.

The DEME-GSR collector test intends to harvest nodules in approx. 0.1 km² large areas of the seabed in the Belgian and German contract areas of the Clarion Clipperton Zone in the Eastern Equatorial Pacific Ocean. Within the lifetime of MiningImpact researchers are planning two cruises (in 2019 and 2021) to the test areas at which the mining test will take place, in order to constrain the spatial and temporal dynamics of the sediment plume created by the mining test and impact on the abyssal environment.

Thus, MiningImpact is designed to further close knowledge gaps and reduce uncertainties on the environmental impacts of deep-sea mining of polymetallic nodules. The project will specifically work towards policy recommendations and has reached out to the International Seabed Authority to become a partner in the project. It will further contribute to the preparation of environmental

impact assessments (EIAs) for future European deep-sea pilot mining tests that are requested by the ISA, and to the Horizon2020 technology development projects Blue Atlantis and Blue Nodules.

Funding support to this new MiningImpact project, which exclusively focuses on studying the impacts on and risks for the marine environment, does not imply that JPI Oceans or its Member Countries either endorse or disapprove of seafloor mining and related operations. MiningImpact is conducted independently of DEME-GSR activities. DEME-GSR is responsible for obtaining all necessary permissions for its operations and does not receive any funding from the MiningImpact project. Neither does the MiningImpact project receive any financial contributions from DEME-GSR. Independently of the JPI Oceans project, DEME-GSR is further responsible to set up its own monitoring programme for its industrial component trial as required by the International Seabed Authority.

Scoping workshop: The contribution of Research for the implementation of the Marine Strategy Framework

The purpose of the workshop was to bring together experts from interested EU countries to discuss and identify the support that scientific community can provide for an efficient and effective development of both the regulatory framework and the various actions envisaged by the MSFD.

The workshop, proposed by Italy and endorsed by Greece and Belgium in the JPI Oceans Management Board, was held last December, in the framework of CSA Oceans 2. Experts from Italy, Belgium, France, Greece, Estonia and Spain, and from the European Commission participated.

The meeting identified a number of gaps and needs and proposed a series of potential activities which could be undertaken under the JPI Oceans framework. The participants proposed to have annual meetings on MSFD, to share scientific gaps and conceptual approaches as a structured learning process to support the official MSFD task groups. Further they discussed adopting or promoting a model similar to the current model used by the Intergovernmental Panel on Climate Change to provide regular scientific assessments and potential policy options. In their conversations the group also discussed joint international oceanographic observing MSFD campaigns (i.e. cruises), aiming at identifying new methods, scientific

intercalibration and development of coherent MSFD assessment methods.

In addition, they proposed to test the interoperability of the data which is currently collected for a number of case studies and promote transnational cooperation around specific indicators and set, consequently, common protocols. Finally the participants recommended to establish test beds on assessment areas, similar to the G7 augmented observatories, to investigate new approaches and have a harmonised view on specific and crucial indicators.

The workshop was the first of a series of workshops between experts to identify priorities and discuss the feasibility of joint activities in the framework of JPI Oceans. When the proposals for joint activities are further crystalized, these will be tabled for the JPI Oceans Management Board.

Transdisciplinary research for ocean sustainability

In this joint call, JPI Oceans teamed up for the first time with the global platforms Belmont Forum and Future Earth to address the global-scale challenges of the sustainability transformation with a global funding setting. The call aimed at bringing together researchers and other expertise across the globe to innovate solutions to accelerate sustainable use of oceans and minimize the effects from global change.

This Collaborative Research Action call aimed to contribute to the overall challenge of ocean sustainability, with the UN Sustainable Development Goal no. 14 (Conserve and sustainably use the oceans, seas and marine resources for sustainable development) providing an overarching framework. The complexity of the challenge of systems transformations to sustainability was recognized to require integrated, interdisciplinary and cross-sectoral approaches, bringing together natural and social sciences, policymakers, resource managers, industries, citizens and other societal partners. The call addressed the following topics:

Topic 1 – Pathways toward a sustainable and equitable use of oceans

The environmental, social, cultural and economic impacts of living and non-living resource extraction (e.g. fisheries, aquaculture, dredging, mining of sand and minerals), and non-extractive industries (e.g. shipping, tourism). Research in this area were asked to address the impacts of economic activities on ecosystems, human societies including human health and well-being, cultures and economies, as well as the capacities of

social systems to respond to these impacts.

Topic 2 – Accounting for and minimizing impacts of global change

The capacity to sustainably use the oceans depends on the understanding of the multi-scale changes in ocean systems, and the additive or synergistic effects of the multiple causes of these changes. Applications addressing this topic were expected to include research on the interactions between stressors, such as climate change, ocean acidification, pollution, deoxygenation and food scarcity; biological processes such as range shifts and biodiversity changes; and ocean dynamics, such as circulation, temperature, and sea level changes.

A total of 16 funders from 14 countries committed in total circa EUR 16 million of cash and in-kind resources for this call: Australia, Brazil, France, Germany, Iceland, India, Japan, Norway, Philippines, Russia, Saudi Arabia, South Africa, Sweden, and USA. Through the Swedish development agency SIDA, researchers from Somalia, Kenya, Tanzania, Mozambique, Comoros and Madagascar were also eligible for this call.



CHAPTER 2

Our Governance

A legal entity and new office for JPI Oceans

With the establishment of an international non-profit association under Belgian law (AISBL) JPI Oceans passed a new milestone.

The format of a legal entity will further consolidate JPI Oceans' role in the European Research Area and is an expression of the increasing maturation of JPI Oceans. With the new AISBL status, JPI Oceans will be better able to deliver on its strategic mission by entering into formal partnerships in its own capacity. Since its launch in 2011, much pan-European thematic alignment and international coordination has been achieved. JPI Oceans' impact is becoming particularly evident in emerging areas such as microplastics in the ocean, where four very successful research projects are since two years contributing new scientific knowledge to an area of rising societal concern, and in the Action on the ecological aspects of deep sea mining. In the latter a novel collaboration approach was tested by developing a multinational, multidisciplinary

research programme based on the sharing of research ship infrastructure. The work of both these actions has been recognized by the G7 in their statements and is contributing to the development of policy for good ocean governance. Consequently, both actions are now each following up with a second funding round to build on the capacity generated and further our scientific insight.

The establishment of the AISBL legal entity for JPI Oceans was complemented by the move of the secretariat to a new office space in Brussels. The new location will ensure cost savings in the longer term whilst continuing to support effectively and efficiently our member countries and their joint agenda.

Internal Advisory Committee elected

At its meeting in Iceland in October, the Management Board appointed five elected candidates as members of a newly established Internal Advisory Committee of JPI Oceans.

The Internal Advisory Committee is made up of seven members: the Chair and Vice Chair of the Management Board and five additional members elected by the Management Board members during their meeting in Reykjavík, Iceland in October. The Chair of the Management Board remains Arvid Hallén, elected as Chair under the mandate of the Norwegian Ministry of Trade, Industry and Fisheries in 2017. The Vice Chair is Dr. Joachim Harms, Head of the Division Marine Research, Geosciences, Ship and Marine Technology Project Management Jülich, Germany also elected in 2017. The elected members are:

- Gilles Lericolais, French Research Institute for Exploitation of the Sea (IFREMER)
- Kristin Thorud, Research Council of Norway (RCN)
- Esther Chacón, Ministry of Economy, Industry and Competitiveness (MINECO)

- Niall McDonough, Marine Institute Ireland (MI)
- David Cox, Belgian Federal Science Policy Office (BELSPO)

The Internal Advisory Committee provides support and assistance to the Management Board during the development and implementation of the JPI Oceans governance, plans, actions and activities. The main tasks and responsibilities of the Internal Advisory Committee are to assist in the preparation of the Management Board meetings. In doing so the committee prepares proposals for Actions, thereby allowing the Management Board to focus on strategic decisions. In addition, the IAC oversees that the work of the secretariat is carried out according to the Management Board decisions. The Internal Advisory Committee replaces the Executive Committee as part of the establishment of the non-profit association under Belgian law (AISBL).

ANNEXES

Annex I: Website - Social Media Statistics

Website analytics

Year	Visits	Unique visitors	Pageviews	Avg. Visit Duration
2013	16,882	9,615	55,914	03:07
2014*	36,139	18,076	155,318	03:01
2015	79,829	48,669	350,926	04:25
2016	88,718	60,009	374,294	05:11
2017	233,145	180,833	611,917	05:05
2018**	42,033	27,754	106,789	02:42

Website Content & Newsletter

Year	News articles published	Newsletters sent	Newsletter subscribers
2013	32	5	545
2014	37	7	641
2015	25	6	955
2016	26	4	1204
2017	24	9	1430
2018	24	5	1463

Social Media & Newsletter analytics

Year	LinkedIn group members	Twitter followers	Facebook likes
2013	356	457	54
2014	478	707	74
2015	624	1,102	200
2016	787	1,733	408
2017	908	2,392	634
2018	963	3,152	847

* 2014 figures are partly based on Google Analytics in combination with an in-house analytics programme from September 2014 onwards.

** 2018 figures are based on the Matomo web analytics platform

Annex II: Management Board

The following list of Management Board members reflects the membership and representation on December 2018.

Country	Organisation	Representatives
BELGIUM	Belgian Federal Science Policy Office (BELSPO) Flemish Government, Department Economy Science and Innovation (EWI)	FRANK MONTENY DAVID COX JOHAN HANSENS GERT VERREET
CROATIA	Institute of Oceanography and Fisheries Ruđer Bošković Institute	IVICA VILIBIĆ SANDI ORLIĆ
DENMARK	Innovation Fund Denmark Technical University of Denmark	ANITHA SHARMA DENNIS LISBJERG MICHAEL ST. JOHN
ESTONIA	Ministry of the Environment of the Estonian Republic Ministry of Agriculture	RENE REISNER KATARINA VIIK EVE KÜLMALLIK HELENA PÄRENSEN
FRANCE	French Research Institute for Exploitation of the Sea (IFREMER) French National Research Agency (ANR)	GILLES LERICOLAIS MAURICE HERAL
GERMANY	German Federal Ministry of Education and Research (BMBF) German Federal Ministry of Food, Agriculture and Consumer Protection Research Centre Jülich (JÜLICH)	TIM EDER URSULA POSSELT HARTMUT STALB JOACHIM HARMS
GREECE	Hellenic Centre for Marine Research (HCMR)	GEORGE PETIHAKIS
ICELAND	The Icelandic Marine and Freshwater Research Institute	SIGURÐUR GUÐJÓNSSON SÓLEY MORTHENS
IRELAND	Marine Institute Ireland (MI)	NIALL McDONOUGH PETER HEFFERNAN CIARAN KELLY CAROLINE BOCQUEL
ITALY	National Institute of Oceanography and Experimental Geophysics (OGS) Italian Ministry of Infrastructure and Transport, Directorate of Maritime Transport and Inland Waterways Italian Consortium for Managing research Activities Venice Lagoon (CORILA) National Research Council of Italy, Marine Technology Research Institute (INSEAN-CNR)	ANGELO CAMERLENGHI MAURIZIO COLETTA PIERPAOLO CAMPOSTRINI EMILIO FORTUNATO CAMPANA

Country	Organisation	Representatives
MALTA	University of Malta, Physical Oceanography Unit (UM)	CORINNE MUSCAT
	Ministry of Economic Affairs, Agriculture and Innovation (EL&I)	ROSANNE METAAL
NETHERLANDS	Netherlands Organisation for Scientific Research (NWO) on behalf of the Ministry of Education, Culture and Science	JOSEF F. STUEFER BERNARD WESTEROP
	Research Council of Norway (RCN)	ARVID HALLÉN KRISTIN ELISABETH THORUD HANNA LEE BEHRENS JARTRUD STEINSLI
NORWAY	Norwegian Ministry of Fisheries and Coastal Affairs	
POLAND	Polish Academy of Sciences; Institute of Hydroengineering (IBW PAN)	GRZEGORZ RÓŻYŃSKI
	Portuguese National Funding Agency for Science, Research and Technology (FCT)	SOFIA CORDEIRO
PORTUGAL	Portuguese Institute of Ocean and Atmosphere (IPMA)	NUNO LOURENÇO
	National Authority for Scientific Research, Directorate for European Integration and International Cooperation	VIORÉL VULTURESCU
ROMANIA	University of Bucharest, Faculty of Geology and Geophysics	VIORÉL GH. UNGUREANU
	Spanish Ministry of Economy and Competiveness (MINECO)	ESTRELLA FERNANDEZ GARCIA ESTHER CHACÓN
SPAIN		
	Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning (FORMAS)	FLOOR TEN HOOPEN PETRA WALLBERG ANNA JÖBORN
SWEDEN	Swedish Agency for Marine and Water Management (HaV)	
	Tübitak Marmara Research Center	CINAR ONER
TURKEY		
	Department for Environment, Food and Rural Affairs (DEFRA)	CARON MONTGOMERY ED HILL MIKE WEBB HOWARD EASTERFIELD
UNITED KINGDOM	National Oceanography Centre (SOTON-NOCS)	
	Natural Environment Research Council (NERC)	
	Centre for Environment, Fisheries and Aquaculture Science	

The European Commission (DG Research and Innovation) has a status of non-voting member. The appointed member is Sieglinde Gruber.

Annex III: Secretariat

Name	Position
KATHRINE ANGELL-HANSEN	Strategic Director, Full-time at the JPI Oceans secretariat
ANDERS BRUDEVOLL	Adviser, Full-time at the JPI Oceans secretariat
WILLEM DE MOOR	Adviser, Full-time at the JPI Oceans secretariat
JOHN HANUS	Adviser, Part-time at the JPI Oceans secretariat
PIER FRANCESCO MORETTI - PhD	Science Officer, Part-time at the JPI Oceans secretariat
TOM REDD	Scientific Adviser, Full-time at the JPI Oceans secretariat
JACKY WOOD	Acting Executive Director, Full-time at the JPI Oceans secretariat

Annex IV: Finances

JPI Oceans AISBL was formally established by Royal Decree and legally and financially operational since 13 March 2018. As a legal entity under Belgian law the Management Board is responsible for approving annual accounts and discharge of liability of the Director. At the current level of annual turnover external auditing is not formally required under Belgian law.

Annual fees from members and associate partners are the main revenue for JPI Oceans. The annual fees are calculated as a share of the overall agreed budget, based on a weighted GDP. In addition, countries are requested to provide additional voluntary contributions. Several such contributions were received in 2018 to ensure that the legal entity could start with a positive cash flow to cover expenses related.

Revenue in the form of voluntary contributions, project participation etc. constitutes a less stable income and is regarded as additional, temporal funding, which does not impact the requested annual fees from members and associate partners. Furthermore, JPI Oceans AISBL is a partner in the All Atlantic Ocean Research Alliance (AANChOR) CSA, with provision for travel and staff time.

A total of EUR 1,071,646 was therefore received in 2018. This includes fees for 2018, advance payments of 2019 fees, funds held by the Research Council of Norway on behalf of JPI Oceans for fees requested prior to the formal establishment of the AISBL, voluntary contributions and pre-payments in the AANChOR project. Due the late establishment of the legal entity and recruitment of the Executive Director the total expenditure in 2018 accounted to only EUR 138,364. This consists of office fixed costs (rent/charges/taxes), running expenses and other costs and secretariat employment costs.

The Research Council of Norway, the Government of Flanders via the Flanders Marine Institute (VLIZ), the German Federal Ministry of Education and Research (BMBF) via the GEOMAR Helmholtz Centre for Ocean Research Kiel and the German Alfred Wegener Institute (AWI) and the National Research Council of Italy (CNR) kindly provided in-kind contributions through staff secondments. This is not quantified in the finances of the JPI Oceans AISBL.

Ensuring that countries meet their financial obligations is a major emphasis to ensure the sustainability and viability of JPI Oceans going forward



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