European Commission

BLUEMED – A basin of research and innovation for sustainable growth

Horizon 2020 Mediterranean Sea related projects (2014-2016)

Research and Innovation

EUROPEAN COMMISSION

Director-General for Research and Innovation
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Horizon 2020 Mediterranean Sea related projects (2014-2016)

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Introduction

The BLUEMED research and innovation initiative for blue jobs and growth in the Mediterranean Area is firmly included on the Agendas of the European countries bordering the Mediterranean Sea. This initiative offers a shared strategic framework for working towards a healthy, productive and resilient Mediterranean Sea that is better known and valued. It is designed to tap the full potential of the marine and maritime sectors, structuring transnational cooperation to boost the Blue Economy, and promote and improve social wellbeing, sustainable prosperity and the environmental status of the region and its surroundings.

Organized under the auspices of the Maltese Presidency of the Council of the European Union, the event *'BLUEMED - A basin of research and innovation for sustainable growth'* aims to open up this initiative, for the first time, to non-EU Mediterranean Partner Countries. The goal is to initiate regional cooperation within the Mediterranean by pooling all efforts together to unlock the potential for Blue Growth and job creation at local, regional and international level.

Research and Innovation is a key driver of this process. Its potential will be disclosed through showcase of relevant projects and discussion on how to connect the Mediterranean and collaborate on innovative activities along the value chain.

This catalogue of Horizon 2020 Mediterranean related projects showcases the EU research and innovation support given to this initiative.

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At a glance

Project number: 663828

Acronym: AQUASONIC-diesel

Title: Upscale of electrical pulses technology capable of fragmenting hydrocarbon chains in fuel for maritime applications

Call: H2020-SMEINST-1-2014

Topic: IT-1-2014-1

Instrument: SME-1

Start date: 1/02/2015

End date: 30/06/2015

Duration: 5 months

Total Cost: € 71,429.00

EC Contribution: € 50,000.00

Consortium: 1 participant

Project Coordinator: AQUASONIC SL (ES)

AQUASONIC-diesel

Upscale of electrical pulses technology capable of fragmenting hydrocarbon chains in fuel for maritime applications

Abstract

Marine fuels used in ships are considered of the lowest grade as far as the quality is concerned. Massive engines of the ships consume thousands of litres of fuel each day. Fuel cost is one of the most important factors which shipping companies consider while predicting profits. To achieve maximum profit and to reduce pollution from ships, it is extremely important for the propulsion engines to burn fuel oil efficiently. Current actual solutions on the market to improve the combustion of fuel in engines are mainly chemical surfactants/dispersants used as additives with the purpose to homogenize the fuel. The AQUASONIC-diesel solution offers an environmentally friendly alternative in order to improve the combustion process of fuel before combustion by applying electric pulsed power technology to offer the following benefits:

• Lowering fuel consumption by 20%, dropping emissions by up to 60% leading to cost savings.

• Foreseen for new builds and retrofit without causing any modifications to the marine diesel engines.

• Maintenance free, robust, natural and ecological physical treatment of fuel that does not affect the fuel properties, without the application of chemicals (unlike the state of the art).

• Selling price between 2.000-20.000 € depending of the fuel flow. Being Spanish market leaders in in electric pulsed power technology, our company Aquasonic has developed and tested this system on a small scale. Through this project we wish to upscale our successfully tested system, certify it according to maritime standards and take advantage of the huge market opportunity.

Project's Participants List

AQUASONIC-diesel

Upscale of electrical pulses technology capable of fragmenting hydrocarbon chains in fuel for maritime applications

Project's participants	Name	Country
1	AQUASONIC SL	ES

At a glance

Project number: 671952

Acronym: CoMPi

Title: Coastal and shallow-water monitoring through innovative low-cost technologies for blue growth in the Mediterranean

Call: H2020-SMEINST-1-2014

Topic: BG-12-2014-1

Instrument: SMEINST

Start date: 01/05/2015

End date: 31/10/2015

Duration: 6 months

Total Cost: € 71,429.00

EC Contribution: € 50,000.00

Consortium: 1 participant

Project Coordinator: LAMPROU D PETRELIS N GP (EL)

CoMPi

Coastal and shallow-water monitoring through innovative low-cost technologies for blue growth in the Mediterranean

Abstract

Phase 1 of CoMPi aims to assess the feasibility of an innovative service on integrated coastal monitoring, with the use of low-cost autonomous observational technologies, that will allow the estimation of the future coastline displacements and the evolution of the shoreline, contributing in this way to the development of the Blue Growth Strategy. Coastal tourism, a pillar of Blue Growth, is negatively affected by climate change in the Mediterranean and in other European coasts. Therefore, proper and sustainable management of the coasts is imperative. Although there are methods and mathematical models widely used to calculate the rates of shoreline changes, the reliability of their estimations depends directly from the amount and quality of the primary data which often have lower-than-required accuracy. For safeguarding blue growth and further developing tourism, innovative monitoring tools which use new methods and technologies for improving the quality and accuracy of the available geo-information providing thus high quality measurements of the shoreline positions are needed. Within Phase 1, a thorough market assessment will take place as well as the technical feasibility of the business idea of PLSurveryors. The factors affecting the pricing of the service and the profitability for the company will be examined. A business plan serving as a roadmap of how the envisaged service will be further created and developed in Phase 2 for its full commercialization will be drafted. The feasibility study will remove any bottlenecks in the ability of PLSurveyors to increase profitability through innovation and enlarge its clientele. Users of the service could be policy makers for develop tailor-made climate adaptation policies, private owners of tourist infrastructures, as well as real estate sectors of banks and insurance companies that shall be able to outline the threats on the coastal area and therefore calculate the potential risks of future tourism investments.

Project's Participants List

CoMPi

Coastal and shallow-water monitoring through innovative low-cost technologies for blue growth in the Mediterranean

Project's participants	Name	Country
1	LAMPROU D PETRELIS N GP	EL

CryoPlankton

A replacement of the sub-optimal live feeds used at hatcheries today with a new cryopreserved live diet for the improved and efficient production of juveniles in marine aquaculture

At a glance

Project number: 651800

Acronym: CryoPlankton

Title: A replacement of the sub-optimal live feeds used at hatcheries today with a new cryopreserved live diet for the improved and efficient production of juveniles in marine aquaculture

Call: H2020-SMEINST-1-2014

Topic: BG-12-2014-1

Instrument: SME-1

Start date: 1/10/2014

End date: 31/03/2015

Duration: 6 months

Total Cost: € 71,429.00

EC Contribution: € 50,000.00

Consortium: 1 participant

Project Coordinator: PLANKTONIC AS (NO)

Abstract

The most important innovation in marine fish aquaculture is the improvement of survival rate and development during the larval stage of the fish. Reasons are that the current nutritional quality of most common live food organisms (rotifers and Artemia nauplii) is inadequate leading to high mortality, deformations and sub-optimal growth during the larval phase of these fish species which limit the overall production. This project's primary objective is to cryopreserve targeted natural zooplankton harvested from the sea, which will be revived for the use as live feed organisms in marine aquaculture. The SME Planktonic has succeeded in cryopreserving marine crustacean nauplii in relatively large scale (entities of up to 200 ml), and to revive them as free swimming organisms (revival rate up to 90%). Because fish larvae are evolutionary adapted to graze on these plankton organisms, it is believed and also documented that it is an optimal diet with respect to nutritional value and performances on the fish growth and survival. Present cryopreservation protocols owned by Planktonic will be further optimized for large scale fish larvae cultivation of both current successful aquaculture species (sea bream and sea bass) and those with requirements of prey of high nutritive value and appropriate size in their early larval phase (e.g. bluefin tuna, long fin yellow tail and Ballan wrasse). Logistics systems for economically feasible shipping of the cryopreserved product within and outside the EU will be assessed, besides procedures for removing market barriers. The world-wide market of Artemia nauplii and rotifers is estimated to about 450 million €. Planktonic is aiming at 10% of this market, which will result in a turnover of 45 million €. Planktonic will in the proposed project perform a feasibility study with the focus of a business plan, potential partners to succeed with the commercialization and evaluate different technologies for up-scaling of the production.

Project's Participants List

CryoPlankton

A replacement of the sub-optimal live feeds used at hatcheries today with a new cryopreserved live diet for the improved and efficient production of juveniles in marine aquaculture

Project's participants	Name	Country
1	PLANKTONIC AS	NO

At a glance

Project number: 641762

Acronym: ECOPOTENTIAL

Title: ECOPOTENTIAL: IMPROVING FUTURE ECOSYSTEM BENEFITS THROUGH EARTH OBSERVATIONS

Call: H2020-SC5-2014-2

Topic: SC5-16-2014

Instrument: Research and innovation action

Start date: 1/06/2015

End date: 31/05/2019

Duration: 48 months

Total Cost: € 15.993, 931.25

EC Contribution: € 14,874,340.00

Consortium: 47 participants

Project Coordinator: CONSIGLIO NAZIONALE DELLE RICERCHE (IT)

ECOPOTENTIAL

ECOPOTENTIAL: IMPROVING FUTURE ECOSYSTEM BENEFITS THROUGH EARTH OBSERVATIONS

Abstract

Terrestrial and marine ecosystems provide essential services to human societies. Anthropogenic pressures, however, cause serious threat to ecosystems, leading to habitat degradation, increased risk of collapse and loss of ecosystem services. Knowledge-based conservation, management and restoration policies are needed to improve ecosystem benefits in face of increasing pressures. ECOPOTENTIAL makes significant progress beyond the state-of-the-art and creates a unified framework for ecosystem studies and management of protected areas (PA). ECOPOTENTIAL focuses on internationally recognized PAs in Europe and beyond in a wide range of biogeographic regions, and it includes UNESCO, Natura2000 and LTER sites and Large Marine Ecosystems. Best use of Earth Observation (EO) and monitoring data is enabled by new EO open-access ecosystem data services (ECOPERNICUS). Modelling approaches including information from EO data are devised, ecosystem services in current and future conditions are assessed and the requirements of future protected areas are defined. Conceptual approaches based on Essential Variables, Macrosystem Ecology and cross-scale interactions allow for a deeper understanding of the Earth's Critical Zone. Open and interoperable access to data and knowledge is assured by a GEO Ecosystem Virtual Laboratory Platform, fully integrated in GEOSS. Support to transparent and knowledge-based conservation and management policies, able to include information from EO data, is developed. Knowledge gained in the PAs is upscaled to pan-European conditions and used for planning and management of future PAs. A permanent stakeholder consultancy group (GEO Ecosystem Community of Practice) will be created. Capacity building is pursued at all levels. SMEs are involved to create expertise leading to new job opportunities, ensuring long-term continuation of services. In summary, ECOPOTENTIAL uses the most advanced technologies to improve future ecosystem benefits for humankind.

Project's Participants List

ECOPOTENTIAL

ECOPOTENTIAL: IMPROVING FUTURE ECOSYSTEM BENEFITS THROUGH EARTH OBSERVATIONS

Project's participants	Name	Country
1	CONSIGLIO NAZIONALE DELLE RICERCHE	IT
2	UNIVERSITA DEL SALENTO	IT
3	ACCADEMIA EUROPEA PER LA RICERCA APPLICATA ED IL PERFEZIONAMENTO PROFESSIONALE BOLZANO (ACCADEMIA EUROPEA BOLZANO)	IT
4	AGENCIA ESTATAL CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS	ES
5	HELMHOLTZ-ZENTRUM FUER UMWELTFORSCHUNG GMBH - UFZ	DE
6	KARLSRUHER INSTITUT FUER TECHNOLOGIE	DE
7	UNIVERSITAET BAYREUTH	DE
8	DEUTSCHES ZENTRUM FUER LUFT - UND RAUMFAHRT EV	DE
9	CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE	FR
10	UNIVERSITY OF LEEDS	UK
11	ENVIRONMENT SYSTEMS LIMITED	UK
12	UNIVERSITATEA DIN BUCURESTI	RO
13	ICETA INSTITUTO DE CIENCIAS, TECNOLOGIAS E AGROAMBIENTE DA UNIVERSIDADE DO PORTO	PT
14	INSTITUTO SUPERIOR TECNICO	PT
15	ETHNIKO KENTRO EREVNAS KAI TECHNOLOGIKIS ANAPTYXIS	EL
16	FOUNDATION FOR RESEARCH AND TECHNOLOGY HELLAS	EL
17	ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE	CH
18	BEN-GURION UNIVERSITY OF THE NEGEV	IL
19	ISRAEL NATURE AND NATIONAL PARKS PROTECTION AUTHORITY	IL
20	PSI HYDROBIOLOGICAL INSTITUTE OHRID	MK
21	COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH	ZA
22	Istituto Superiore per la Protezione e la Ricerca Ambientale	IT
23	POLITECNICO DI MILANO	IT
24	CENTRO DE INVESTIGACION ECOLOGICA YAPLICACIONES FORESTALES	ES

Project's Participants List

ECOPOTENTIAL

ECOPOTENTIAL: IMPROVING FUTURE ECOSYSTEM BENEFITS THROUGH EARTH OBSERVATIONS

Project's participants	Name	Country
25	UNIVERSITAT AUTONOMA DE BARCELONA	ES
26	UNIVERSIDAD DE GRANADA	ES
27	UMWELTBUNDESAMT GMBH	AT
28	UNIVERSITAET POTSDAM	DE
29	MUSEUM FUR NATURKUNDE - LEIBNIZ-INSTITUT FUR EVOLUTIONS- UND BIODIVERSITATSFORSCHUNG AN DER HUMBOLDT-UNIVERSITAT ZU BERLIN	DE
30	FONDATION TOUR DU VALAT	FR
31	STICHTING DELTARES	NL
32	ARATOS ANONYMOS ETERIA ANAPTYXIS, PARAGOGIS & EMPORIAS PROIONTON PLIROFORIKIS & IPSILIS TECHNOLOGIAS (Aratos Technologies S.A.)	EL
33	STARLAB BARCELONA SL	ES
34	MARTIN-LUTHER-UNIVERSITAET HALLE-WITTENBERG	DE
35	STICHTING NIOZ, KONINKLIJK NEDERLANDS INSTITUUT VOOR ONDERZOEK DER ZEE	NL
36	KLAIPEDOS UNIVERSITETAS	LT
37	UNIVERSITE PAUL SABATIER TOULOUSE III	FR
38	UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANIZATION -UNESCO	FR
39	LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE	UK
40	UNIVERSITETET I BERGEN	NO
41	TERRADUE UK LTD	UK
42	UNITED NATIONS ENVIRONMENT PROGRAMME	KE
43	UNIVERSITY OF NEW SOUTH WALES	AU
44	EIDGENOESSISCHE TECHNISCHE HOCHSCHULE ZUERICH	CH
45	AGENCIA DE MEDIO AMBIENTE Y AGUA DE ANDALUCIA	ES
46	UNIVERSITE DE BRETAGNE OCCIDENTALE	FR
47	UNIVERSITE DE GENEVE	CH

ELOXIRAS

Electrochemical Oxidation in the Recirculating Aquaculture Systems Industry

At a glance

Project number: 651167

Acronym: ELOXIRAS

Title: Electrochemical Oxidation in the Recirculating Aquaculture Systems Industry

Call: H2020-SMEINST-1-2014

Topic: SFS-08-2014-1

Instrument: SME-1

Start date: 1/10/2014

End date: 31/03/2015

Duration: 6 months

Total Cost: € 71,429.00

EC Contribution: € 50,000.00

Consortium: 1 participant

Project Coordinator: APRIA SYSTEMS S.L. (ES)

Abstract

"ELOXIRAS is an innovative water treatment concept specially developed to improve the productivity and environmental impact of marine RAS used by the exponentially growing aquaculture industry.

Worldwide aquaculture sector is a market with an annual average growth of 10%. At European countries the aquaculture industry production is about 1.26 Mt/year. Aquaculture sector is a successful business opportunity. The economic feasibility of inland hatchery aquaculture activities requires high biomass culture densities (kg species /m3 of water). Recirculating Aquaculture Systems (RAS) are emerging as the preferred technology to provide adequate culture water quality in hatchery activities. RAS production within EU is conservatively estimated in 0.029 Mt/year with a market value of 175 M€/year and an average growing rate of 14%/year. RAS industry is mainly established in The Netherlands and Denmark with raising interest in other European countries, for example Spain.

ELOXIRAS is an innovative treatment of the culture water from marine RAS hatcheries, which is based on electrochemical oxidation technology. The novelty respect to the main competitors is related to:

- High efficiency and removal of all key pollutants, including bacteria and virus.
- Compact and modular design.
- Reduction of water and energy requirements.
- Easy to operate with adaptable capacity to required productivity.

The introduction of ELOXIRAS improves the annual benefits and/or the environmental impact of the marine RAS equipped with existing competitor solution (biofilter+ozone). Thus, the introduction of this process into the actual aquaculture industry constitutes an advantaged business opportunity.

The main objective of the present proposal (phase 1) is the determination of the ELOXIRAS technological and economic feasibility. After checking its feasibility an ELOXIRAS prototype will be developed in order to conduct several demonstration activities (phase 2)"

Project's Participants List

ELOXIRAS

Electrochemical Oxidation in the Recirculating Aquaculture Systems Industry

Project's partners	Name	Country
1	APRIA SYSTEMS S.L.	ES

JERICO-NEXT

Joint European Research Infrastructure network for Coastal Observatory – Novel European eXpertise for coastal observaTories

At a glance

Project number: 654410

Acronym: JERICO-NEXT

Title: Joint European Research Infrastructure network for Coastal Observatory – Novel European eXpertise for coastal observaTories

Call: H2020-INFRAIA-2014-2015

Topic: INFRAIA-1-2014-2015

Instrument: Research and innovation action

Start date: 1/09/2015

End date: 31/08/2019

Duration: 48 months

Total Cost: € 9,998,876.47

EC Contribution: € 9,998,876.47

Consortium: 34 participants

Project Coordinator: INSTITUT FRANCAIS DE RECHERCHE POUR L'EXPLOITATION DE LA MER (FR)

Abstract

The coastal area is the most productive and dynamic environment of the world ocean with significant resources and services for mankind. JERICO-NEXT (33 organizations from 15 countries) emphasizes that the complexity of the coastal ocean cannot be well understood if interconnection between physics, biogeochemistry and biology is not guaranteed. Such an integration requires new technological developments allowing continuous monitoring of a larger set of parameters. In the continuity of JERICO(FP7), the objective of JERICO-NEXT consists in strengthening and enlarging a solid and transparent European network in providing operational services for the timely, continuous and sustainable delivery of high quality environmental data and information products related to marine environment in European coastal seas Other objectives are: Support European coastal research communities, enable free and open access to data, enhance the readiness of new observing platform networks by increasing the performance of sensors, showcase of the adequacy of the so-developed observing technologies and strategies, propose a medium-term roadmap for coastal observatories through a permanent dialogue with stakeholders. Innovation JERICO-NEXT is based of a set of technological and methodological innovations. One main innovation potential is to provide a simple access to a large set of validated crucial information to understand the global change in coastal areas. Although JERICO-NEXT already includes industrial partners, it will be open to other research institutes, laboratories and private companies which could become associated partners to the project. Added values of JERICO NEXT JERICO-RI shall send data and information in an operational mode to European data systems, with dedicated service access. One of the strengths of JERICO-NEXT lies in the fact that technological and methodological developments shall be deployed in natural environment.

Project's Participants List

JERICO-NEXT

Joint European Research Infrastructure network for Coastal Observatory – Novel European eXpertise for coastal observaTories

Project's participants	Name	Country
1	INSTITUT FRANCAIS DE RECHERCHE POUR L'EXPLOITATION DE LA MER	FR
2	FUNDACION AZTI - AZTI FUNDAZIOA	ES
3	BLUE LOBSTER IT LIMITED	UK
4	THE SECRETARY OF STATE FOR ENVIRONMENT, FOOD AND RURAL AFFAIRS	UK
5	FONDAZIONE CENTRO EURO-MEDITERRANEO SUI CAMBIAMENTI CLIMATICI	IT
6	CONSIGLIO NAZIONALE DELLE RICERCHE	IT
7	CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE	FR
8	AGENCIA ESTATAL CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS	ES
9	STICHTING DELTARES	NL
10	ETT SPA	IT
11	EUROGOOS AISBL	BE
12	FLUIDION	FR
13	ILMATIETEEN LAITOS	FI
14	HELLENIC CENTRE FOR MARINE RESEARCH	EL
15	HELMHOLTZ-ZENTRUM GEESTHACHT ZENTRUM FUR MATERIAL- UND KUSTENFORSCHUNG GMBH	DE
16	INSTITUTO HIDROGRAFICO	PT
17	HAVFORSKNINGSINSTITUTTET	NO
18	INSTITUTE OF OCEANOLOGY - BULGARIAN ACADEMY OF SCIENCES	BG
19	INTERNATIONAL RESEARCH INSTITUTE OFSTAVANGER AS	NO
20	MARIENE INFORMATIE SERVICE MARIS BV	NL
21	MARINE INSTITUTE	IE
22	NORSK INSTITUTT FOR VANNFORSKNING	NO
23	ISTITUTO NAZIONALE DI OCEANOGRAFIA E DI GEOFISICA SPERIMENTALE	IT
24	MINISTERIE VAN INFRASTRUCTUUR EN MILIEU	NL
25	SLR ENVIRONMENTAL CONSULTING(IRELAND)LIMITED	IE
26	SMARTBAY IRELAND LIMITED	IE
27	SVERIGES METEOROLOGISKA OCH HYDROLOGISKA INSTITUT	SE
28	SOCIB - CONSORCIO PARA EL DISENO, CONSTRUCCION, EQUIPAMIENTO Y EXPLOTACION DEL SISTEMA DE OBSERVACION COSTERO DE LAS ILLES BALEARS	ES
29	SUOMEN YMPARISTOKESKUS	FI
30	UNIVERSITA TA MALTA	MT
31	UNIVERSITAT POLITECNICA DE CATALUNYA	ES
32	VLAAMS INSTITUUT VOOR DE ZEE VZW	BE
33	EURO-ARGO ERIC	FR
34	DURAND DOMINIQUE, DENIS, FABRICE	NO

At a glance

Project number: 636146

Acronym: LeanShips

Title: Low Energy And Near to zero emissions Ships

Call: H2020-MG-2014-2

Topic: MG-4.1-2014

Instrument: Innovation action

Start date: 1/05/2015

End date: 30/04/2019

Duration: 48 months

Total Cost: € 22,993,509.38

EC Contribution: € 16,726,364.46

Consortium: 49 participants

Project Coordinator: SCHEEPSWERF DAMEN GORINCHEM BV (NL)

LeanShips

Low Energy And Near to zero emissions Ships

Abstract

The specific challenge for waterborne transport call MG4.1 is, "To support developments that make new and existing vessels…more efficient and less polluting". A sound way to support developments is, to demonstrate solutions that are sufficiently close to market so that ship owners will consider these in their future investment plans. Following this reasoning LeanShips will execute 8 demonstration actions that combine technologies for efficient, less polluting new/retrofitted vessels with end users' requirements. Demonstrators were selected for their end-user commitment (high realisation chance), impact on energy use/emissions, EU-relevance, innovativeness and targeted-TRL at the project end. Selected technologies (TRL3-4 and higher) address engines/fuels/drive trains, hull/propulsors, energy systems/emission abatement technologies. Technologies are demonstrated mostly at full-scale and evidence is provided on energy and emission performance in operational environments. The LeanShips partnership contains ship owners, shipyards and equipment suppliers, in total 48 partners from industry (81%) and other organisations. Industry has a leading role in each demonstrator. Target markets are the smaller-midsized ships for intra-European waterborne transport, vessels for offshore operations and the leisure/cruise market. First impact estimates show fuel saving of up to 25 %, CO2 at least up to 25%, and SOx/NOx/PM 10-100%. These estimates will be updated during the project. First market potential estimates for the LeanShips partnership and for markets beyond the partnership are promising. Project activities are structured into 3 layers: Basis layer with 8 focused demonstrators (WP 04-11), Integration layer with QA, Innovation Platform and Guide to Innovation (WP02), Dissemination and Market-uptake (WP03), and top Management layer (WP01), in total 11 Work Packages. The demonstrators represent an industry investment of ca. M€ 57, the required funding is M€ 17,25.

Project's Participants List

LeanShips

Low Energy And Near to zero emissions Ships

Project's partners	Name	Country
1	SCHEEPSWERF DAMEN GORINCHEM BV	NL
2	STICHTING NETHERLANDS MARITIME TECHNOLOGY FOUNDATION	NL
3	CENTER OF MARITIME TECHNOLOGIES EV	DE
4	STX FRANCE SA	FR
5	SIREHNA - SOCIETE D'INGENIERIE, DE RECHERCHES ET D'ETUDES EN HYDRODYNAMIQUE NAVALE SA	FR
6	FINCANTIERI SPA	IT
7	STICHTING MARITIEM RESEARCH INSTITUUT NEDERLAND	NL
8	UNIVERSITEIT GENT	BE
9	CETENA S.p.A. Centro per gli Studi di Tecnica Navale	IT
10	RINA SERVICES SPA	IT
11	MEC Insenerilahendused	EE
12	SMARTLINK OU	EE
13	TALLINK GRUPP AS	EE
14	ENERTIME	FR
15	LEROUX ET LOTZ TECHNOLOGIES	FR
16	HUG ENGINEERING ITALIA SRL	IT
17	HOCHSCHULE EMDEN/LEER	DE
18	PAULSTRA	FR
19	MTU Friedrichshafen GmbH	DE
20	SVITZER A/S	DK
21	NAVANTIA S.A.	ES
22	ROLLS-ROYCE POWER ENGINEERING PLC	UK
23	ROLLS-ROYCE MARINE AS	NO
24	Rolls-Royce AB	SE
25	LLOYD'S REGISTER EMEA IPS	UK
26	WAGENBORG SHIPPING BV	NL
27	CONOSHIP INTERNATIONAL BV	NL
28	CHALMERS TEKNISKA HOEGSKOLA AB	SE
29	OSCILLATING FOIL DEVELOPMENT BV	NL
30	DCP DUTCH CARGO PURCHASE BV	NL
31	VICUS DESARROLLOS TECNOLOGICOS SL	ES
32	METHANEX EUROPE SA	BE
33	ABEKING & RASMUSSEN SCHIFFS- UND YACHTWERFT AKTIENGESELLSCHAFT	DE

Project's Participants List

LeanShips

Low Energy And Near to zero emissions Ships

Project's partners	Name	Country
34	KANT MARINE EN INDUSTRIE NV	BE
35	DREDGING INTERNATIONAL NV	BE
36	MACHINEFABRIEK BOLIER BV	NL
37	CRYONORM SYSTEMS BV	NL
38	NIESTERN-SANDER REPARATIE BV	NL
39	COFELY NEDERLAND NV	NL
40	KONGSBERG MARITIME AS	NO
41	SANTIERUL NAVAL DAMEN GALATI SA	RO
42	MARINE ENGINEERING SRL	RO
43	WARTSILA FINLAND OY	FI
44	WAERTSILA NETHERLANDS B.V.	NL
45	SHIPS AND MARITIME EQUIPMENT ASSOCIATION OF EUROPE ASBL	BE
46	MEYER WERFT PAPENBURG GMBH & CO KG	DE
47	REVNETEK SYSTEMS OÜ	EE
48	HUG ENGINEERING AG	CH
49	GRIMALDI DEEP SEA SPA	IT

LYNCEUS2MARKET

An innovative people localisation system for safe evacuation of large passenger ships

At a glance

Project number: 636286

Acronym: LYNCEUS2MARKET

Title: An innovative people localisation system for safe evacuation of large passenger ships

Call: H2020-MG-2014-2

Topic: MG-4.2-2014

Instrument: Innovation action

Start date: 01/06/2015

End date: 31/05/2018

Duration: 36 months

Total Cost: € 10,155,002.5

EC Contribution: € 7,260,975

Consortium: 16 participants

Project Coordinator: RTD TALOS LIMITED (CY)

Abstract

Maritime disasters in recent years are a stark reminder of the imperative need for timely and effective evacuation of large passenger ships during emergency. The Lynceus2Market project addresses this challenge through delivering a revolutionary operational system for safe evacuation based on innovative people localisation technologies. The system consists of: 1) Localisable life jackets that can provide passenger location in real-time during emergency 2) Smart smoke detectors that also act as base stations of an on-board localisation system 3) Innovative localisable bracelets able to send activity data to the emergency management team 4) Low cost fire and flooding escalation monitoring sensor notes 5) novel mustering handheld devices for automatic identification and counting of passengers during evacuation 6) Smart localisable cabin key cards 7) Intelligent decision support software able to fuse all localisation, activity and disaster escalation data to provide an integrated real-time visualisation, passenger counting and evacuation decision support 8) Innovative shore or ship-launched Unmanned Aerial Vehicle for localising people in the sea in short time and assisting search and rescue operations when accident occurs in extreme weather, during the night or in a remote location 9) Low-cost rescue-boat mounted radars for people localisation in the vicinity of the boat. The proposed project is based on the promising results developed in the FP7 LYNCEUS project where the innovative technologies were tested in lab and in small scale pilots. Lynceus2Market brings together European global players in the field, such as cruise ship owners, operators, ship builders, maritime equipment manufacturers, a classification society, industry associations and important technology organisations with the aim to implement the first market replication of these technologies and products. The Lynceus2Market will create significant impact by saving passenger lives during maritime accidents.

Project's Participants List

LYNCEUS2MARKET

An innovative people localisation system for safe evacuation of large passenger ships

Project's participants	Name	Country
1	RTD TALOS LIMITED	CY
2	LLOYD'S REGISTER EMEA IPS	UK
3	RCL CRUISES LTD	UK
4	AUTRONICA FIRE AND SECURITY AS	NO
5	CELESTYAL SHIP MANAGEMENT LIMITED	CY
6	SIGNALGENERIX LTD	CY
7	FORO MARITIMO VASCO	ES
8	MARITIME INSTITUTE OF EASTERN MEDITERRANEAN - MAR.IN.E.M.	CY
9	ASOCIACION DE EMPRESARIOS TEXTILES DE LA REGION VALENCIANA	ES
10	TECHNISCHE UNIVERSITAET DRESDEN	DE
11	SAFE MARINE SRL	IT
12	CSEM CENTRE SUISSE D'ELECTRONIQUE ET DE MICROTECHNIQUE SA - RECHERCHE ET DEVELOPPEMENT	CH
13	G.G. DEDALOS TECHNOLOGY SERVICES LTD	CY
14	I. PANARETOU - CHAR. KOSTOPOULOS OE	EL
15	CANEPA & CAMPI SRL	IT
16	MINISTRY OF TRANSPORT, COMMUNICATIONS AND WORKS	CY

MARIBE

Marine Investment for the Blue Economy

At a glance

Project number: 652629

Acronym: MARIBE

Title: Marine Investment for the Blue Economy

Call: H2020-BG-2014-1

Topic: BG-05-2014

Instrument: Coordination and support action

Start date: 01/03/2015

End date: 31/08/2016

Duration: 18 months

Total Cost: € 1,977,951.25

EC Contribution: € 1,977,951.25

Consortium: 10 participants

Project Coordinator: UNIVERSITY COLLEGE CORK - NATIONAL UNIVERSITY OF IRELAND, CORK (IE)

Abstract

MARIBE is a Horizon 2020 project that aims to unlock the potential of multi-use of space in the offshore economy (also referred to as Blue Economy). This forms part of the long-term Blue Growth (BG) strategy to support sustainable growth in the marine and maritime sectors as a whole; something which is at the heart of the Integrated Maritime Policy, the EU Innovation Union, and the Europe 2020 strategy for smart, sustainable growth.

Within the Blue Economy, there are new and emerging sectors comprising technologies that are early stage and novel. These are referred to as Blue Growth sectors and they have developed independently for the most part without pursuing cooperation opportunities with other sectors. MARIBE investigates cooperation opportunities (partnerships, joint ventures etc.) for companies within the four key BG sectors in order to develop these companies and their sectors and to promote the multi-use of space in the offshore economy. The sectors are Marine Renewable Energy, Aquaculture, Marine Biotechnology and Seabed Mining. MARIBE links and cross-cuts with the Transatlantic Ocean Research Alliance and the Galway Statement by reviewing the three European basins (Atlantic, Mediterranean, and Baltic) as well as the Caribbean Basin.

The project begins with an assessment of the current Blue Growth economy. A socio-economic study of the various Blue Growth sectors will be undertaken. Existing business models will be mapped according to best practice methodology, cognisant of their value chains. The technical and non-technical challenges of the business will be identified and proposals made for their mitigation. Key FP7 projects that focus on multi-use of space and multi-use platforms will also be assessed.

The consortium will draw on this study to identify key opportunities for synergistic collaboration. It will examine 24 sectoral combinations in total and 12 of those with high potential will be developed further. To do this, MARIBE will work with selected EU-funded consortia (particularly those involved in the Oceans of Tomorrow projects) to develop cross-sectoral projects. It will also work with a range of academic and industry partners to develop projects within 5 additional sectoral combinations that present potential for synergistic collaboration. The MARIBE partners will take a hands-on approach to developing collaboration, brokering partnerships where necessary and assisting with the creation of the business plans and implementation plans required to secure investment for these 12 projects.

Project's Participants List

MARIBE

Marine Investment for the Blue Economy

Project's participants	Name	Country
1	UNIVERSITY COLLEGE CORK - NATIONAL UNIVERSITY OF IRELAND, CORK	IE
2	STICHTING DIENST LANDBOUWKUNDIG ONDERZOEK	NL
3	ECOAST	BE
4	SWANSEA UNIVERSITY	UK
5	HERIOT-WATT UNIVERSITY	UK
6	UNIVERSIDAD DE CANTABRIA	ES
7	AQUABIOTECH LIMITED	MT
8	FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS FAO	IT
9	BUSINESS MODELS INC BV	NL
10	BVG ASSOCIATES LIMITED	UK

At a glance

Project number: 652643

Acronym: Respon-SEA-ble

Title: Sustainable oceans: our collective responsibility, our common interest. Building on real-life knowledge systems for developing interactive and mutual learning media

Call: H2020-BG-2014-1

Topic: BG-13-2014

Instrument: Coordination and support action

Start date: 01/04/2015

End date: 31/03/2019

Duration: 48 months

Total Cost: € 3,696,644

EC Contribution: € 3,696,644

Consortium: 18 participants

Project Coordinator: ACTEON SARL (FR)

Respon-SEA-ble

Sustainable oceans: our collective responsibility, our common interest. Building on real-life knowledge systems for developing interactive and mutual learning media

Abstract

The project will develop well-targeted and sound communication material that raises awareness on our (individual and collective) responsibility and interest in ensuring the sustainability of the ocean and of its ecosystems. The project builds on critical assessments of: (1) existing communication strategies, material and governance that focuses on the ocean; (2) the values, perceptions and understanding of the state, functioning and role of the ocean by different types of stakeholders and of the wider public; (3) the (scientific) knowledge that exist on the ocean-human relationship, in particular in terms of ecosystem services that can be delivered by ocean ecosystems and support (future) development opportunities and blue growth and of pressures that are imposed on the oceans. These critical assessments will help identifying priority target groups with key responsibilities and interests in the state of our oceans - today and in the future. Within a participatory process involving the stakeholders of the knowledge creation & sharing system from four European marine regions (Baltic Sea, Mediterranean Sea, Northern Sea and Atlantic _ including in its transatlantic dimension), and building on the scientific knowledge-base established and on project-dedicated IT structure/platform, the project will then develop and test under real conditions innovative communication tools. Key principles guiding this development will be interactivity, mutual learning, creativity and entertainment. Finally, specific activities will be performed for ensuring proposed communication tools are made accessible and available to their future users in Europe but also elsewhere.

Project's Participants List

Respon-SEA-ble

Sustainable oceans: our collective responsibility, our common interest. Building on real-life knowledge systems for developing interactive and mutual learning media

Project's participants	Name	Country
1	ACTEON SARL	FR
2	STIFTELSEN GRID ARENDAL	NO
3	NATIONAL UNIVERSITY OF IRELAND, GALWAY	IE
4	STICHTING PROSEA MARINE EDUCATION	NL
5	COFAC COOPERATIVA DE FORMACAO E ANIMACAO CULTURAL CRL	PT
6	INSTITUTUL NATIONAL DE CERCETARE-DEZVOLTARE DELTA DUNARII	RO
7	NORSK INSTITUTT FOR VANNFORSKNING	NO
8	CSP - INNOVAZIONE NELLE ICT S.C.A.R.L.	IT
9	BALTIC ENVIRONMENTAL FORUM DEUTSCHLAND EV	DE
10	FUNDACION AZTI - AZTI FUNDAZIOA	ES
11	THE MARINE FOUNDATION LIMITED	UK
12	SEVEN ENGINEERING CONSULTANTS OE	EL
13	UNIVERSITE DE BRETAGNE OCCIDENTALE	FR
14	UNIVERSITY OF PLYMOUTH	UK
15	TELEVISION FOR THE ENVIRONMENT	UK
16	Memorial University of Newfoundland	CA
17	UNIVERSITE DU QUEBEC A RIMOUSKI	CA
18	DUKE UNIVERSITY	US

SmartTap

Real-Time Monitoring System for Water Quality

At a glance

Project number: 641384

Acronym: SmartTap

Title: Real-Time Monitoring System for Water Quality

Call: ERC-2014-PoC

Topic: ERC-PoC-2014

Instrument: ERC-POC

Start date: 01/01/2015

End date: 30/06/2016

Duration: 18 months

Total Cost: € 150,000

EC Contribution: € 150,000

Consortium: 2 participants

Project Coordinator: UNIVERSITY OF CYPRUS (CY)

Abstract

Clean drinking water is a critical resource, important for the health and well-being of all humans. Uninterrupted supply of clean drinking water is considered a human right, thus water utilities must monitor and control the water quality following strict European and national regulations. A water contamination event can have a dramatic effect on everyday life, as well as on the local economy. Unfortunately, due to the large-scale and complex nature of water distribution systems, water quality monitoring is sporadic, while contamination events may take days before they are detected. The situation is especially severe in developing countries, where water contamination problems commonly result in hospitalizations, or even deaths, and have a major impact on the quality of life. The idea of the proposed proof of concept is to develop the SmartTap system, an intelligent water quality monitoring system that uses spatial and temporal data processing techniques for monitoring the quality of water and detecting any contamination events. The SmartTap is a cyber-physical system comprised of low-cost wireless sensory devices (physical) and smart software (cyber) that are seamlessly integrated so that the software is able to compensate for any inaccuracies in the hardware. The system is suitable for large or small scale deployments, enabling a sensor network approach for providing effective water quality monitoring to consumers (homes, schools, hospitals, hotels, etc.) and water utilities. The goal is to provide real-time water quality monitoring information to consumers and utilities and to reliably detect any contamination events within 1-2 hours, compared to the current state of several days.

Project's Participants List

SmartTap

Real-Time Monitoring System for Water Quality

Project's participants	Name	Country
1	UNIVERSITY OF CYPRUS	CY
2	AQUALLIGENCE LIMITED	CY

WiMUST

Widely scalable Mobile Underwater Sonar Technology

At a glance

Project number:

Acronym: WiMUST

Title: Widely scalable Mobile Underwater Sonar Technology

Call: H2020-ICT-2014-1

Topic: ICT-23-2014

Instrument: Research and innovation action

Start date: 01/02/2015

End date: 31/01/2018

Duration: 36 months

Total Cost: € 3,970,081.25

EC Contribution: € 3,970,081.25

Consortium: 9 participants

Project Coordinator: UNIVERSITA DEGLI STUDI DI GENOVA (IT)

Abstract

The WiMUST (Widely scalable Mobile Underwater Sonar Technology) project aims at expanding and improving the functionalities of current cooperative marine robotic systems, effectively enabling distributed acoustic array technologies for geophysical surveying with a view to exploration and geotechnical applications. Recent developments have shown that there is vast potential for groups of marine robots acting in cooperation to drastically improve the methods available for ocean exploration and exploitation. Traditionally, seismic reflection surveying is performed by vessel towed streamers of hydrophones acquiring reflected acoustic signals generated by acoustic sources (either towed or onboard a vessel). In this context, geotechnical surveying for civil and commercial applications (e.g., underwater construction, infrastructure monitoring, mapping for natural hazard assessment, environmental mapping, etc.) aims at seafloor and sub-bottom characterization using towed streamers of fixed length that are extremely cumbersome to operate. The vision underlying the WiMUST proposal is that of developing advanced cooperative and networked control / navigation systems to enable a large number (tens) of marine robots (both on the surface and submerged) to interact by sharing information as a coordinated team (not only in pairs). The WiMUST system may be envisioned as an adaptive variable geometry acoustic array. By allowing the group of surface and submerged vehicles to change their geometrical configuration, an end-user can seamlessly change the geometry of the ”virtual streamer” trailing the emitter, something that has not been achieved in practice and holds potential to drastically improve ocean surveying. The project brings together a group of research institutions, geophysical surveying companies and SMEs with a proven track record in autonomous adaptive and robust systems, communications, networked cooperative control and navigation, and marine robot design and fabrication.

Project's Participants List

WiMUST

Widely scalable Mobile Underwater Sonar Technology

Project's participants	Name	Country
1	UNIVERSITA DEGLI STUDI DI GENOVA	IT
2	ASSOCIACAO DO INSTITUTO SUPERIOR TECNICO PARA A INVESTIGACAO E DESENVOLVIMENTO	PT
3	CINTAL - CENTRO INVESTIGACAO TECNOLOGICA DO ALGARVE	PT
4	THE UNIVERSITY OF HERTFORDSHIRE HIGHER EDUCATION CORPORATION	UK
5	EVOLOGICS GMBH	DE
6	GRAAL TECH SRL	IT
7	CGG SERVICES SA	FR
8	GEO MARINE SURVEY SYSTEMS BV	NL
9	GEOSURVEYS CONSULTORES EM GEOFISICA LDA	PT

At a glance

Project number: 687289

Acronym: Co-ReSyF

Title: Coastal Waters Research Synergy Framework

Call: H2020-EO-2015

Topic: EO-2-2015

Instrument: Research and innovation action

Start date: 01/01/2016

End date: 31/12/2018

Duration: 36 months

Total Cost: € 2,999,901.25

EC Contribution: € 2,999,901.25

Consortium: 8 participants

Project Coordinator: DEIMOS ENGENHARIA S.A (PT)

Co-ReSyF

Coastal Waters Research Synergy Framework

Abstract

The Co-ReSyF project will implement a dedicated data access and processing infrastructure, with automated tools, methods and standards to support research applications using Earth Observation (EO) data for monitoring of Coastal Waters, leveraging on the components deployed SenSyF. The main objective is to facilitate the access to Earth Observation data and pre-processing tools to the research community, towards the future provision of future Coastal Waters services based on EO data. Through Co-ReSyF's collaborative front end, even young and/or inexperienced researchers in EO will be able to upload their applications to the system to compose and configure processing chains for easy deployment on the cloud infrastructure. They will be able to accelerate the development of high-performing applications taking full advantage of the scalability of resources available in the cloud framework. The included facilities and tools, optimized for distributed processing, include EO data access catalogue, discovery and retrieval tools, as well as a number of pre-processing and toolboxes for manipulating EO data. Advanced users will also be able to go further and take full control of the processing chains and algorithms by having access to the cloud back-end and to further optimize their applications for fast deployment for big data access and processing. The Co-ReSyF capabilities will be supported and initially demonstrated by a series of early adopters that will develop new research applications on the coastal domain, will guide the definition of requirements and serve as system beta testers. A competitive call will be issued within the project to further demonstrate and promote the usage of the Co-ReSyF release. These pioneering researchers in will be given access not only to the platform itself, but also to extensive training material on the system and also on Coastal Waters research themes, as well as to the project's events, including the Summer School and Final Workshop.

Project's Participants List

Co-ReSyF

Coastal Waters Research Synergy Framework

Project's participants	Name	Country
1	DEIMOS ENGENHARIA S.A.	PT
2	TERRADUE SRL	IT
3	ACRI-HE	FR
4	ARGANS LIMITED	UK
5	INSTITUTO HIDROGRAFICO	PT
6	LABORATORIO NACIONAL DE ENGENHARIA CIVIL	PT
7	UNIVERSITY COLLEGE CORK - NATIONAL UNIVERSITY OF IRELAND, CORK	IE
8	NATURAL ENVIRONMENT RESEARCH COUNCIL	IE

CryoPlankton2

Cryopreservation of marine planktonic crustacean nauplii for innovative and cost-effective live feed diet in fish juvenile aquaculture

At a glance

Project number: 711906

Acronym: CryoPlankton2

Title: Cryopreservation of marine planktonic crustacean nauplii for innovative and cost-effective live feed diet in fish juvenile aquaculture

Call: H2020-SMEINST-2-2015

Topic: BG-12-2015

Instrument: SME-2

Start date: 01/02/2016

End date: 30/04/2018

Duration: 27 months

Total Cost: € 2,004,250.00

EC Contribution: € 1,402,975.00

Consortium: 1 participant

Project Coordinator: PLANKTONIC AS (NO)

Abstract

The SME Planktonic has succeeded in cryopreserving marine crustacean nauplii (hereafter called CryoProduct) in large user-friendly entities, and to revive them as live individuals after thawing. The ease-of-use CryoProduct meets the nutritional requirements of fish larvae. A doubling in growth rate and a 25-30% shortening of the live feed period compared to a diet of the suboptimal live feed diets commonly used at marine hatcheries have been demonstrated (large-scale industrial trial, TRL6). With a well-functioning feeding protocol to be developed in the project period, it is expected that performances of the fish larvae will be even better. It will be put effort on optimizing the cryopreservation protocols to achieve a CryoProduct with even better quality than today for improving the performances of fish juveniles. A bio-security evaluation will be performed, and a screening of microorganisms will be needed for the registration of the CryoProduct. To successfully launch the CryoProduct into the EU market, it will be of major importance to scale up the production, to establish efficient logistic systems, identify end-users needs and to provide a reliable commercialisation plan for the best possible market introduction. As the CryoProduct has outstanding performances compared to today's alternatives, we expect a market share of 50% of the live feed market on a longer term. This corresponds to revenue of more than 100 million €. As the market grows 3-4% per year, the market size will double in about 20 years. It is a considerable aquaculture production in the EU. If the product meets the expectations, it will most probably be a major contribution to realize the production potential of marine fish in aquaculture in the EU. This will result in many thousand new jobs, and primarily in the Mediterranean region. The business innovation project fits well to the business strategy of Planktonic, and to the Horizon2020 SME-2 programme under the topic BG-12-2015.

Project's Participants List

CryoPlankton2

Cryopreservation of marine planktonic crustacean nauplii for innovative and cost-effective live feed diet in fish juvenile aquaculture

Project's participants	Name	Country
1	PLANKTONIC AS	NO

DEMOGRAVI3

Demonstration of the GRAVI3 technology – innovative gravity foundation for offshore wind

At a glance

Project number: 691717

Acronym: DEMOGRAVI3

Title: Demonstration of the GRAVI3 technology – innovative gravity foundation for offshore wind

Call: H2020-LCE-2015-2

Topic: LCE-03-2015

Instrument: Innovation action

Start date: 01/01/2016

End date: 31/12/2019

Duration: 48 months

Total Cost: € 26,523,602.50

EC Contribution: € 19,037,465.51

Consortium: 10 participants

Project Coordinator: EDP RENEWABLES EUROPE SL (ES)

Abstract

Offshore wind business competitiveness is strongly related to substructures and offshore logistics. DEMOGRAVI3 addresses these areas through a very promising solution called GRAVI3. GRAVI3 is an innovative hybrid steel-concrete offshore sub-structure for transitional water depths between 35 and 60m. It will sustainably reduce the levelized cost of energy by up to 15% by combining the following vectors: - Using three concrete caissons, with water ballast, instead of more complex and costly steel solutions and anchoring systems - Using a smaller steel structure - Performing all construction and assembly onshore and towing the complete unit to the site where it is submerged with an innovative and robust method. - Preventing the use of heavy lift vessels and reducing the level of complexity and risk of offshore operations. GRAVI3 has undergone the typical technology development process and is presently at TRL5. The logical next step is the demonstration at full scale in real operational conditions. Thus, the project fits perfectly to the addressed Call for Proposals as the project will support technology development and bring the technology close to market readiness. The proposed project will design, engineer, build, assemble, transport, install and demonstrate a full scale foundation, equipped with a 2 MW offshore wind turbine, in a consented and grid connected demonstration site. Additionally, the project will undertake further technology development for improved design and perform an in depth evaluation of the technology's future industrialization, competitiveness and bankability. The core partners are committed to bring the GRAVI3 technology to market intending to 1) form a company with the objective to commercialize the GRAVI3 technology; 2) prepare themselves to take on important segments of the industrial value chain which will be put in place to move the GRAVI3 product forward; 3) foster the use of the technology, namely in the wind farms they are developing.

Project's Participants List

DEMOGRAVI3

Demonstration of the GRAVI3 technology – innovative gravity foundation for offshore wind

Project's participants	Name	Country
1	EDP RENEWABLES EUROPE SL	ES
2	CNET - Centre for New Energy Technologies, S.A.	PT
3	A. Silva Matos - Energia, SA	PT
4	TECNICA Y PROYECTOS SA	ES
5	UNIVERSIDAD POLITECNICA DE MADRID	ES
6	WAVEC/OFFSHORE RENEWABLES - CENTRO DE ENERGIA OFFSHORE ASSOCIACAO	PT
7	ACCIONA INFRAESTRUCTURAS S.A.	ES
8	FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.	DE
9	GAVIN AND DOHERTY GEOSOLUTIONS LTD	IE
10	Global Maritime AS	NO

ELICAN

Self-installing telescopic substructure for low-cost craneless installation of complete offshore wind turbines. Deep offshore 5mw prototype

At a glance

Project number: 691919

Acronym: ELICAN

Title: Self-installing telescopic substructure for low-cost craneless installation of complete offshore wind turbines. Deep offshore 5mw prototype

Call: H2020-LCE-2015-2

Topic: LCE-03-2015

Instrument: Innovation action

Start date: 01/01/2016

End date: 31/12/2018

Duration: 36 months

Total Cost: €17,107,301.25

EC Contribution: €11,181,986.88

Consortium: 4 participants

Project Coordinator: ESTEYCO SAP (ES)

Abstract

In ELICAN, a strong team of complementary European companies with worldwide leading presence in the Wind Energy industry join forces to provide the market with a disruptive high-capacity and cost-reducing integrated substructure system for deep offshore wind energy. The technology is exceptionally fitted to meet the technical and logistical challenges of the sector as it moves into deeper locations with larger turbines, while allowing for drastic cost reduction. This project will design, build, certify and fully demonstrate in operative environment a deep water substructure prototype supporting Adwen's 5MW offshore wind turbine, the be installed in the Southeast coast of Las Palmas (Canary Islands). It will become the first bottom-fixed offshore wind turbine in all of Southern Europe and the first one worldwide to be installed with no need of heavy-lift vessels. The revolutionary substructure consists in an integrated self-installing precast concrete telescopic tower and foundation that will allow for crane-free offshore installation of the complete substructure and wind turbine, thus overcoming the constraints imposed by the dependence on heavy-lift vessels. It will allow for a full inshore preassembly of the complete system, which is key to generate a highly industrialized low-cost manufacturing process with fast production rates and optimized risk control. The main benefits to be provided by this ground-breaking technology are: • Significant cost reduction (>35%) compared with current solutions. • Direct scalability in terms of turbine size, water depth, infrastructure and installation means. • Complete independence of heavy-lift vessels • Excellently suited for fast industrialized construction. • Robust and durable concrete substructure for reduced OPEX costs and improved asset integrity. • Suitable for most soil conditions, including rocky seabeds. • Enhanced environmental friendliness regarding both impact on sea life and carbon footprint.

Project's Participants List

ELICAN

Self-installing telescopic substructure for low-cost craneless installation of complete offshore wind turbines. Deep offshore 5mw prototype

Project's participants	Name	Country
1	ESTEYCO SAP	ES
2	ADWEN OFFSHORE S.L.	ES
3	ALE HEAVYLIFT (R&D) BV	NL
4	UL INTERNATIONAL GMBH	DE

ELOXIRAS

Electrochemical Oxidation in the Recirculating Aquaculture Systems Industry

At a glance

Project number: 698494

Acronym: ELOXIRAS

Title: Electrochemical Oxidation in the Recirculating Aquaculture Systems Industry

Call: H2020-SMEINST-2-2015

Topic: SFS-08-2015

Instrument: SME-2

Start date: 01/12/2015

End date: 30/11/2017

Duration: 24 months

Total Cost: € 1,423,208.33

EC Contribution: € 2,033,154.78

Consortium: 3 participants

Project Coordinator: APRIA SYSTEMS S.L. (ES)

Abstract

Recirculating aquaculture systems (RAS) operate by filtering and removing water pollutants from the fish tanks so it can be reused. Since its introduction, RAS production has increased in volume and species with a CAGR of 14%/year, and has a worldwide market estimated in €6.4 billion. Marine RAS is expensive to purchase and operate, and requires high biomass culture density (kg/m3) that implies fast accumulation of toxic metabolized compounds in low water volume, implying significant volumes of fresh water. Thus, RAS end-users need cost-efficient technologies that can work in these conditions. Market available solutions are mainly bio-filtration and ozone treatments, and cannot work under these challenging conditions, showing efficacy fluctuations and start-up periods that increase the production stages and their costs.

That scenario has encouraged APRIA SYSTEMS, a SME with more than 9 years of experience in water treatment process, to develop ELOXIRAS. Its first prototype is based on new advanced electrochemical oxidation technology, allowing to increase production (30%), reduce fresh water consumption (20%), and increase the efficacy on removing pollutants (>90%). It can be adjusted to different RAS facilities (modular & versatile), and is easy to operate without efficacy fluctuations and start-up periods, then can be also used on logistics operations to guarantee best fish transport conditions and efficiencies. ELOXIRAS will be upgraded by APRIA supported by key technology partners as MAGNETO SPECIAL ANODES (reactor specialist) and 2 RAS end-users: RODECAN and TIMAMENOR (industrial validation tests). This approach will allow APRIA to commit on achieving a RAS EU market share of 7% for 3 marine species (seabream, seabass, turbot) primary over key RAS EU countries (Spain, France, UK, Italy, Denmark, The Netherlands). That conservative market share will permit a total ELOXIRAS sales of 1385 modules in the first 5 years of commercialisation.

Project's Participants List

ELOXIRAS

Electrochemical Oxidation in the Recirculating Aquaculture Systems Industry

Project's participants	Name	Country
1	APRIA Systems S.L.	ES
2	MAGNETO	NL
3	RODECAN SL	ES

EMSODEV

EMSO implementation and operation: DEVelopment of instrument module

At a glance

Project number: 676555

Acronym: EMSODEV

Title: ECOPOTENTIAL: IMPROVING FUTURE ECOSYSTEM BENEFITS THROUGH EARTH OBSERVATIONS

Call: H2020-INFRADEV-1-2015-1

Topic: INFRADEV-3-2015

Instrument: Research and innovation action

Start date: 01/09/2015

End date: 31/08/2018

Duration: 36 months

Total Cost: € 4,298,602.00

EC Contribution: € 4,529,864.98

Consortium: 11 partiicpants

Project Coordinator: ISTITUTO NAZIONALE DI GEOFISICA E VULCANOLOGIA (IT)

Abstract

The EMSODEV general objective is to catalyse the full operations of the EMSO distributed Research Infrastructure, through the development and deployment of the EMSO Generic Instrument Module (EGIM). EGIM will provide accurate, consistent, comparable, long-term measurements of ocean parameters, which are key to addressing urgent societal and scientific challenges (e.g. climate change and hazards). This will lead to an increased interoperability of EMSO nodes and to the common collection of ocean essential variable time series. The specific objectives are: (1) to design and implement a state-of-the-art, standardized multidisciplinary EGIM, a common, harmonized, observation system; (2) to fully test, calibrate, validate and assess the effectiveness of this innovative module in order to ensure its maximum quality, long-term durability, and reliability; (3) to strengthen the data management and delivery backbone of the EMSO RI; this will require a coordinated approach to data capture, archiving, management, and delivery, in turn spurring the development of a wide range of data products and services; (4) to promote the uptake of the project results and public-private partnerships establishing links with industry and SMEs for technology transfer. These objectives will be achieved through: (a) Research & Innovation activities focused on the design, development, test, replication and deployment of EGIMs at EMSO nodes and data management system implementation; (b) Communication, dissemination and exploitation activities aimed at disseminating and facilitating the uptake of the project results, and setting up activities to increase the innovation potential of EMSODEV technological output, and to explore EGIM commercialization. All these activities are in line with those listed in the part B of the section “Specific features for Research Infrastructures”. The consortium includes 11 multi-skilled partners, with two industries, ensuring the fulfilment of the objectives.

Project's Participants List

EMSODEV

EMSO implementation and operation: DEVelopment of instrument module

Project's participants	Name	Country
1	ISTITUTO NAZIONALE DI GEOFISICA E VULCANOLOGIA	IT
2	INSTITUT FRANCAIS DE RECHERCHE POUR L'EXPLOITATION DE LA MER	FR
3	HELLENIC CENTRE FOR MARINE RESEARCH	EL
4	AGENCIA ESTATAL CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS	ES
5	NATURAL ENVIRONMENT RESEARCH COUNCIL	UK
6	MARINE INSTITUTE	IE
7	UNIVERSITAET BREMEN	DE
8	INSTITUTO PORTUGUES DO MAR E DA ATMOSFERA IP	PT
9	INSTITUTUL NATIONAL DE CERCETARE-DEZVOLTARE PENTRU GEOLOGIE SI GEOECOLOGIE MARINA-GEOECOMAR	RO
10	SLR ENVIRONMENTAL CONSULTING(IRELAND)LIMITED	IE
11	ENGINEERING - INGEGNERIA INFORMATICA SPA	IT

EO4wildlife

Platform for wildlife monitoring integrating Copernicus and ARGOS data

At a glance

Project number: 687275

Acronym: EO4wildlife

Title: Electrochemical Oxidation in the Recirculating Aquaculture Systems Industry

Call: H2020-EO-2015

Topic: EO-2-2015

Instrument: Research and innovation action

Start date: 01/01/2016

End date: 31/12/2018

Duration: 36 months

Total Cost: € 2,665,325.00

EC Contribution: € 2,665,325.00

Consortium: 7 participants

Project Coordinator: ATOS SPAIN SA (ES)

Abstract

EO4wildlife main objective is to bring large number of multidisciplinary scientists such as biologists, ecologists and ornithologists around the world to collaborate closely together while using European Sentinel Copernicus Earth Observation more heavily and efficiently. In order to reach such important objective, an open service platform and interoperable toolbox will be designed and developed. It will offer high level services that can be accessed by scientists to perform their respective research. The platform front end will be easy-to-use, access and offer dedicated services that will enable them process their geospatial environmental stimulations using Sentinel Earth Observation data that are intelligently combined with other observation sources. Specifically, the EO4wildlife platform will enable the integration of Sentinel data, ARGOS archive databases and real time thematic databank portals, including Wildlifetracking.org, Seabirdtracking.org, and other Earth Observation and MetOcean databases; locally or remotely, and simultaneously. EO4wildlife research specialises in the intelligent management big data, processing, advanced analytics and a Knowledge Base for wildlife migratory behaviour and trends forecast. The research will lead to the development of web-enabled open services using OGC standards for sensor observation and measurements and data processing of heterogeneous geospatial observation data and uncertainties. EO4wildlife will design, implement and validate various scenarios based on real operational use case requirements in the field of wildlife migrations, habitats and behaviour. These include: (1) Management tools for regulatory authorities to achieve real-time advanced decision-making on the protection of protect seabird species; (2) Enhancing scientific knowledge of pelagic fish migrations routes, reproduction and feeding behaviours for better species management; and (3) Setting up tools to assist marine protected areas and management.

Project's Participants List

EO4wildlife

Platform for wildlife monitoring integrating Copernicus and ARGOS data

Project's participants	Name	Country
1	ATOS SPAIN SA	ES
2	ATOS ORIGIN INTEGRATION SAS	FR
3	COLLECTE LOCALISATION SATELLITES SA	FR
4	AGENCE DES AIRES MARINES PROTEGEES	FR
5	BIRDLIFE INTERNATIONAL	UK
6	UNIVERSITY OF SOUTHAMPTON	UK
7	THE UNIVERSITY OF EXETER	UK

EONav

Earth Observation for Maritime Navigation

At a glance

Project number: 687537

Acronym: EONav

Title: Earth Observation for Maritime Navigation

Call: H2020-EO-2015

Topic: EO-1-2015

Instrument: Innovation action

Start date: 1/05/2016

End date: 30/04/2019

Duration: 36 months

Total Cost: € 2,606,937.50

EC Contribution: € 1,999,793.75

Consortium: 7 participants

Project Coordinator: O.M. OFFSHORE MONITORING LIMITED (FR)

Abstract

EONav presents an entirely new concept of combining space-based remote sensing observations which are offered by Copernicus with local maritime ship observations to aid maritime sail planning for fuel, emission and fatigue optimization. High fuel costs, consequences of delays in ship passages, reduction of SO2/CO2/NOx and similar emissions and other constraints are now putting more pressure on the maritime industry. Thus utilizing sea state, sea ice and AIS observations from space-based remote sensing, and particularly from Copernicus, allow the sea masters and planners to integrate more accurate and reliable observations to optimize their sail plan and thereby greatly increase profitability. This project is going to bring Copernicus remote sensing observations into sail planning tools with the objective of very significantly improve sail plan accuracy and reliability.

Project's Participants List

EONav

Earth Observation for Maritime Navigation

Project's participants	Name	Country
1	O.M. OFFSHORE MONITORING LIMITED	CY
2	ADVANCED COMPUTER SYSTEMS A.C.S. SPA	IT
3	G.M.S. GLOBAL MARITIME SERVICES LIMITED	UK
4	CHALMERS TEKNISKA HOEGSKOLA AB	SE
5	OFFSHORE NAVIGATION LIMITED	AI
6	COLOR LINE MARINE AS	NO
7	MARITIME LAURIN MARITIME AB	SE

MERCES

Marine Ecosystem Restoration in Changing European Seas

At a glance

Project number: 689518

Acronym: LeanShips

Title: Marine Ecosystem Restoration in Changing European Seas

Call: H2020-SC5-2015-two-stage

Topic: SC5-07-2015

Instrument: Research and innovation action

Start date: 1/06/2016

End date: 31/05/2020

Duration: 48 months

Total Cost: € 6,651,118.20

EC Contribution: € 6,651,118.20

Consortium: 29 participants

Project Coordinator: UNIVERSITA POLITECNICA DELLE MARCHE (IT)

Abstract

The project MERCES is focused on the restoration of different degraded marine habitats, with the aim of: 1) assessing the potential of different technologies and approaches; 2) quantifying the returns in terms of ecosystems services and their socio-economic impacts; 3) defining the legal-policy and governance frameworks needed to optimize the effectiveness of the different restoration approaches. Specific aims include: a) improving existing, and developing new, restoration actions of degraded marine habitats; b) increasing the adaptation of EU degraded marine habitats to global change; c) enhancing marine ecosystem resilience and services; d) conducting cost-benefit analyses for marine restoration measures; e) creating new industrial targets and opportunities. To achieve these objectives MERCES created a multi-disciplinary consortium with skills in marine ecology, restoration, law, policy and governance, socio-economics, knowledge transfer, dissemination and communication. MERCES will start from the inventory of EU degraded marine habitats (WP1), conduct pilot restoration experiments (WP2, WP3, WP4), assess the effects of restoration on ecosystem services (WP5). The legal, policy and governance outputs will make effective the potential of marine restoration (WP6) and one dedicated WP will assess the socio-economic returns of marine ecosystems' restoration (WP7). The transfer of knowledge and the links with the industrial stakeholders will be the focus of WP8. The results of MERCES will be disseminated to the widest audience (WP9). The project will be managed through a dedicated management office (WP10). MERCES will contribute to the Blue Growth by: i) improving the EU scientific knowledge on marine restoration, ii) contributing to EU Marine Directives; iii) implementing the Restoration Agenda, iv) enhancing the industrial capacity in this field, v) increasing the competitiveness of EU in the world market of restoration, and vi) offering new employment opportunities.

Project's Participants List

MERCES

Marine Ecosystem Restoration in Changing European Seas

Project's participants	Name	Country
1	UNIVERSITA POLITECNICA DELLE MARCHE	IT
2	AGENCIA ESTATAL CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS	ES
3	HELLENIC CENTRE FOR MARINE RESEARCH	EL
4	IMAR- INSTITUTO DO MAR	PT
5	ALFRED-WEGENER-INSTITUT HELMHOLTZ- ZENTRUM FUER POLAR- UND MEERESFORSCHUNG	DE
6	INSTITUT FRANCAIS DE RECHERCHE POUR L'EXPLOITATION DE LA MER	FR
7	NATIONAL UNIVERSITY OF IRELAND, GALWAY	IE
8	WAGENINGEN UNIVERSITY	NL
9	AALBORG UNIVERSITET	DK
10	ABO AKADEMI	FI
11	TARTU ULIKOOL	EE
12	FACULTY OF SCIENCE UNIVERSITY OF ZAGREB	HR
13	CONSORZIO NAZIONALE INTERUNIVERSITARIO PER LE SCIENZE DEL MARE	IT
14	STICHTING NIOZ, KONINKLIJK NEDERLANDS INSTITUUT VOOR ONDERZOEK DER ZEE	NL
15	ECOPATH INTERNATIONAL INITIATIVE ASOCIACION	ES
16	STICHTING KATHOLIEKE UNIVERSITEIT	NL
17	NORSK INSTITUTT FOR VANNFORSKNING	NO
18	NATURAL ENVIRONMENT RESEARCH COUNCIL	UK
19	ECOREACH SRL	IT
20	Median SCP	ES
21	STUDIO ASSOCIATO GAIA SNC DEI DOTTORI ANTONIO SARA E MARTINA MILANESE	IT
22	DEEP SEAS ENVIRONMENTAL SOLUTIONS LTD	UK
23	Marine Law and Ocean Policy Research Services Ltd	IE
24	WWF ITALIA	IT
25	WCMC LBG	UK
26	AKDENIZ KORUMA DERNEGI	TR
27	UNIVERSITAT DE BARCELONA	ES
28	HERIOT-WATT UNIVERSITY	UK

OCEANFISH

Open Ocean Fish farms

At a glance

Project Number: 683610

Acronym: OCEANFISH

Title: Open Ocean Fish farms

Call: H2020-SMEINST-2-2015

Topic: BG-12-2015

Instrument: SME-2

Start date: 01/08/2015

End date: 31/07/2017

Duration: 24 months

Total Cost: € 3,354,000.00

EC Contribution: € 2,347,800.00

Consortium: 1 participant

Project Coordinator: GILLI OCEAN TECHNOLOGY LTD (IL)

Abstract

Gili Ocean Technologies aims to become the leading off-shore (Open Ocean) aquaculture company. This will be achieved through the operation of fish farms as well as through the delivery of turn-key projects for other fish farmers based on our extensive off-shore fish farming expertise and advanced technologies. Aquaculture is rapidly growing. The FAO estimates that aquaculture will grow to over 62% of the worldwide supply of fish protein by 2030.However, the currently near-shore aquaculture faces significant problems e.g. relatively slow growth rate for the fish, high death rates, low stocking densities in the cages and intensive use of antibiotics in order to fight diseases. In addition, significant pollution in the coastal areas is very common as there is hardly any dispersing of organic matter in the ocean. This impacts the local ecology as well as the industry itself. OCEANFISH aims to finalize the development and start the commercialisation of the various technologies necessary to transform Gili's existing Subflex Classic systems to advanced and sophisticated open ocean systems improving growth rates, reducing ecological impact and providing the aquaculture industry with the tools necessary to meet the market demands. This is a significant market opportunity. To capture this opportunity, the OCEANFISH project aims to 1) increase the cost-efficiency of the Subflex aquaculture platform, 2) enable real off-shore farming, 3) enable growth of additional fish species and 4) commercialize the technology. The OCEANFISH system is a flexible submerged system of cages. The original technology was developed with the Technion, Israel's leading technological university. OCEANFISH is an excellent example of how humans can take better advantage of oceans in a highly sustainable manner and at the same time solve significant ecological challenges.

Project's Participants List

OCEANFISH

Open Ocean Fish farms

Project's participants	Name	Country
1	GILLI OCEAN TECHNOLOGY LTD	IL

At a glance

Project Number: 654444

Acronym: OPERA

Title: Open Sea Operating Experience to Reduce Wave Energy Cost

Call: H2020-LCE-2015-1-two-stage

Topic: LCE-02-2015

Instrument: Research and innovation action

Start date: 01/02/2016

End date: 31/07/2019

Duration: 42 months

Total Cost: € 5,741,263.75

EC Contribution: € 5,741,263.75

Consortium: 12 participants

Project Coordinator: FUNDACION TECNALIA RESEARCH & INNOVATION (ES)

OPERA

Open Sea Operating Experience to Reduce Wave Energy Cost

Abstract

Europe is endowed with abundant wave energy which could cover some 10% of its electricity needs with a clean, predictable and job-creating resource, which EU companies are at the forefront exploiting with little dependence on foreign suppliers. There remain important technical challenges to bring down costs to within investors' reach, as a top priority open-sea operating experience must be analysed to permit the focus of R&D efforts on identifying and solving problems uncovered in open-sea deployments. However, to this day, most wave energy R&D does not have access to open-sea operating data as they are not shared by the companies that sponsored open-sea tests. OPERA will remove this roadblock by collecting and sharing two years of open-sea operating data of a floating oscillating water column wave energy converter. In addition the project will be the first open-sea deployment for four cost-reducing innovations that will be advanced from TRL3-4 to TRL5. Together, these four innovations have a long-term cost reduction potential of over 50%. These are: a 50% more efficient turbine, latching and predictive control, a shared mooring system for wave energy similar to those that have reduced mooring costs 50% in aquaculture, and an elastomeric mooring tether that reduces peak loads at the hull-mooring connection 70% and thus addresses one of the most pressing challenges for structural survivability of wave energy devices. Documenting and sharing this open-sea experience will also induce a step-change in our knowledge of risk and uncertainties, costs and societal and environmental impacts of wave energy. The consortium brings together world leaders in wave energy research from four European countries and the IPR owner and most advanced teams to exploit each of these innovations. Last but not least, the project brings national in-cash co-financing of over €2 million to directly fund the open-sea testing.

Project's Participants List

OPERA

Open Sea Operating Experience to Reduce Wave Energy Cost

Project's participants	Name	Country
1	FUNDACION TECNALIA RESEARCH & INNOVATION	ES
2	OCEANTEC ENERGIAS MARINAS SL	ES
3	BISCAY MARINE ENERGY PLATFORM SA	ES
4	ENTE VASCO DE LA ENERGIA	ES
5	IBERDROLA ENGINEERING AND CONSTRUCTION UK LIMITED	UK
6	Global Maritime Consultancy Ltd.	UK
7	DNV GL UK LIMITED	UK
8	THE UNIVERSITY OF EDINBURGH	UK
9	THE UNIVERSITY OF EXETER	UK
10	KYMANER-TECNOLOGIAS ENERGETICAS LDA	PT
11	INSTITUTO SUPERIOR TECNICO	PT
12	UNIVERSITY COLLEGE CORK - NATIONAL UNIVERSITY OF IRELAND, CORK	IE

PANDORA

Probing safety of nano-objects by defining immune responses of environmental organisms

At a glance

Project Number: 671881

Acronym: PANDORA

Title: Probing safety of nano-objects by defining immune responses of environmental organisms

Call: H2020-MSCA-ITN-2015

Topic: MSCA-ITN-ETN

Instrument: MSCA-ITN-ETN

Start date: 01/01/2016

End date: 31/12/2019

Duration: 48 months

Total Cost: €2,814,491.16

EC Contribution: €2,814,491.16

Consortium: 10 participants

Project Coordinator: CONSIGLIO NAZIONALE DELLE RICERCHE (IT)

Abstract

PANDORA (Probing safety of nano-objects by defining immune responses of environmental organisms) shall assess the global impact of engineered nanoparticles (NP) on the immune responses of representative organisms covering all evolutionary stages and hierarchical levels from plants to invertebrates and vertebrates. Immunity is a major determinant of the survival and fitness of all living organisms, therefore immunosafety of engineered NP is a key element of environmental nanosafety. PANDORA will tackle the issue of global immunological nanosafety by comparing the impact of widely-used NP (e.g., iron, titanium and cerium oxide) on the human immune response with their effects in representative terrestrial and marine organisms. This comparison will focus on the conserved system of innate immunity/stress response/inflammation, aiming to identify common mechanisms and markers across immune defence evolution shared by plants (Arabidopsis), invertebrate (bivalves, echinoderms, earthworms), and vertebrate (human) species. PANDORA's objectives are: 1. To identify immunological mechanisms triggered by nano-objects, and predictive markers of risk vs. safety; 2. To do so by a collaborative cross-species comparison, from plants to human, of innate immune defence capacity, using selected, industrially-relevant NP; 3. To design predictive in vitro assays to measure the immuno-risk of NP to the environment and human health, as new approaches to industrial and environmental nanosafety testing. PANDORA will train 11 PhD students in an overarching training programme involving training-by-research, joint courses of technical, scientific and transferrable skills, participation to public scientific events, and an intense intersectoral networking exchange plan. The PANDORA consortium encompasses academic institutions, research centres, and SMEs, all with proven experience in higher education and training, and state-of-the art scientific and technical expertise and infrastructures.

Project's Participants List

PANDORA

Probing safety of nano-objects by defining immune responses of environmental organisms

Project's participants	Name	Country
1	CONSIGLIO NAZIONALE DELLE RICERCHE	IT
2	PARIS-LODRON-UNIVERSITAT SALZBURG	AT
3	UNIVERSITA DEGLI STUDI DI GENOVA	IT
4	MIKROBIOLOGICKY USTAV - AVCR, V.V.I.	CZ
5	EBERHARD KARLS UNIVERSITAET TUEBINGEN	DE
6	UNIVERZA V LJUBLJANI	SI
7	CARDIFF UNIVERSITY	UK
8	NATURAL ENVIRONMENT RESEARCH COUNCIL	UK
9	AvantiCell Science Ltd	UK
10	FUNDACIO INSTITUT CATALA DE NANOCIENCIA I NANOTECNOLOGIA	ES

At a glance

Project Number: 689173

Acronym: pp2EMBRC

Title: European Marine Biology Resource Centre preparatory phase 2

Call: H2020-INFRADEV-1-2015-2

Topic: INFRADEV-2-2015

Instrument: Coordination and support action

Start date: 01/10/2015

End date: 30/09/2016

Duration: 12 months

Total Cost: € 975,520.00

EC Contribution: € 975,520.00

Consortium: 16 participants

Project Coordinator: CENTRO DE CIENCIAS DO MAR DO ALGARVE (PT)

pp2EMBRC

European Marine Biology Resource Centre preparatory phase 2

Abstract

EMBRC is a distributed infrastructure of marine biology and ecology, encompassing aquaculture and biotechnology, exploiting the latest "omics", analytical and imaging technologies, and providing on site and remote scientific and technical services to the scientific community of the public and private sector. EMBRC successfully completed a preparatory phase in early in 2014 with the production of a business plan and a memorandum of understanding (MoU) signed by 9 countries. A host for its headquarters has been chosen and and an ERIC application is in preparation. Since only institutions from 5 MoU signatory countries went through the preparatory phase, the present proposal has as objectives: 1) to harmonize the access mechanism to the operational EMBRC-ERIC across all the partners, putting all the practical tools in place, including host contracts and single point online access platform, to enable EMBRC-ERIC to commence its access program; 2) to put in place practical guidelines towards the full implementation of the new European and international legislation and commitments on access and fair benefit sharing of the use of marine biological resources, thus providing clarity to future users of EMBRC-ERIC about their legal rights over obtained biological resources, and positioning itself globally as a broker between users and the supplying countries ; 3) to focus the smart specialization of the regions onto the opportunities marine biological resources offer for blue-biotech development and innovation, thus demonstrating the member states that EMBRC is a tool towards economic development of their maritime regions, and enticing them to sign the EMBRC-ERIC, and prioritize its sustained support, particularly from regions which are now underrepresented in EMBRC (Black and Baltic Seas). These activities will ensure that the beneficiary research communities can exploit the results obtained at EMBRC-ERIC facility from the start with the highest efficiency.

Project's Participants List

pp2EMBRC

European Marine Biology Resource Centre preparatory phase 2

Project's participants	Name	Country
1	CENTRO DE CIENCIAS DO MAR DO ALGARVE	PT
2	UNIVERSITE PIERRE ET MARIE CURIE - PARIS 6	FR
3	STAZIONE ZOOLOGICA ANTON DOHRN	IT
4	MARINE BIOLOGICAL ASSOCIATION OF THE UNITED KINGDOM	UK
5	UNIVERSITEIT GENT	BE
6	HELLENIC CENTRE FOR MARINE RESEARCH	EL
7	THE HEBREW UNIVERSITY OF JERUSALEM	IL
8	UNIVERSIDAD DEL PAIS VASCO/ EUSKAL HERRIKO UNIBERTSITATEA	ES
9	UNIVERSITETET I BERGEN	NO
10	IMAR- INSTITUTO DO MAR	PT
11	UNIVERSIDAD DE VIGO	ES
12	THE UNIVERSITY COURT OF THE UNIVERSITY OF ST ANDREWS	UK
13	CONFERENCE DES REGIONS PERIPHERIQUES MARITIMES D'EUROPE - ASSOCIATION	FR
14	HELSINGIN YLIOPISTO	FI
15	NATURAL ENVIRONMENT RESEARCH COUNCIL	UK
16	VLAAMS INSTITUUT VOOR DE ZEE VZW	BE

PROCETS

PROtective composite Coatings via Electrodeposition and Thermal Spraying

At a glance

Project Number: 686135

Acronym: PROCETS

Title: PROtective composite Coatings via Electrodeposition and Thermal Spraying

Call: H2020-NMP-PILOTS-2015

Topic: NMP-02-2015

Instrument: Innovation action

Start date: 01/11/2015

End date: 30/04/2019

Duration: 42 months

Total Cost: €8,651,911.98

EC Contribution: €6,976,663.39

Consortium: 16 participants

Project Coordinator: ETHNIKO KENTRO EREVNAS KAI TECHNOLOGIKIS ANAPTYXIS (EL)

Abstract

Wear and corrosion of materials causes losses of 3-4% of GDP in developed countries and billions of Euros are spent annually on capital replacement and control methods for wear and corrosion infrastructure. As a result many important industries are dependent on surface engineering of protective coatings, making it one of the main critical technologies underpinning the competitiveness of EU industry. There are 2 main techniques that dominate the protective coatings sector: hard chromium (HC) plating and thermal spray (TS). However, HC plating faces a series of issues with most important the extremely negative health and environmental impact leading to the EC restriction of this method for using Cr+6 by the end of 2017. Similarly, recent toxicity studies concerning Co-WC cermet applied by TP have revealed that Co-WC particles are toxic in a dose/time-dependent manner. Consequently, there is the necessity of finding new, less hazardous methods and materials exhibiting the same or better performance compared to existing ones. The PROCETS project will took advantage of the use of nano-particles for production of composite coatings with superior properties compared to those of HC produced by electroplating or to Co-WC produced by TS. These novel nano-particles will be incorporated into existing production lines after appropriate modifications. The new procedures will be easily transferred by minor adaption to the present electroplating and TS facilities, and will combine flexibility and mass customization abilities, restrict environmental and health hazards and finally be available at acceptable cost. Thus, PROCETS main target is to deliver protective coatings covering a wide range of applications such as automotive, aerospace, metal-working, oil and gas and cutting tools industries via thermal spray and electroplating methods by utilizing more environmental friendly materials, compared to the currently used.

Project's Participants List

PROCETS

PROtective composite Coatings via Electrodeposition and Thermal Spraying

Project's participants	Name	Country
1	ETHNIKO KENTRO EREVNAS KAI TECHNOLOGIKIS ANAPTYXIS	EL
2	TENNECO AUTOMOTIVE EUROPE BVBA	BE
3	POLITECNICO DI MILANO	IT
4	AVANZARE INNOVACION TECNOLOGICA SL	ES
5	UNIVERSITAT DE BARCELONA	ES
6	INSTITUTO DE SOLDADURA E QUALIDADE	PT
7	TEKNISKA HOGSKOLAN I JONKOPING AB	SE
8	FALEX TRIBOLOGY NV	BE
9	HUSQVARNA AB	SE
10	MBN NANOMATERIALIA SPA	IT
11	CROMOMED SA	ES
12	ARTIA NANO - ENGINEERING & CONSULTING IKE	EL
13	MATRES SCRL	IT
14	CENTER OF TECHNOLOGY RESEARCH AND INNOVATION LTD	CY
15	BRITISH ALLIED TRADES FEDERATION LBG	UK
16	WIENERBERGER AG	AT

Sea Litter Critters

A compact, unmanned, renewables-powered and self-sufficient vessel able to pick up marine litter and to treat it on board for volume reduction and energy recovery

At a glance

Project Number: 717863

Acronym: Sea Litter Critters

Title: A compact, unmanned, renewables-powered and self-sufficient vessel able to pick up marine litter and to treat it on board for volume reduction and energy recovery

Call: H2020-SMEINST-1-2015

Topic: BG-12-2015-1

Instrument: SME-1

Start date: 01/03/2016

End date: 31/08/2016

Duration: 6 months

Total Cost: € 71,429.00

EC Contribution: € 50,000.00

Consortium: 1 participant

Project Coordinator: IRIS SRL (IT)

Abstract

The project intends to explore the feasibility of introducing to the market Sea Litter Critters, a compact, unmanned, renewables-powered and self-sufficient marine litter collection and treatment vessel based on a patent pending device treating waste thermally with plasma technology and no harmful emissions. This device is designed to operate near the shores especially nearer tourist facilities substituting the mechanical collection of litter currently adopted. By picking up litter (plastic debris mostly) near the point of entry, Sea Litter Critters contribute to minimising the pollution risks linked to plastic in the sea, where plastic items become brittle and break down into small particles, but basically never dissolve. Such particles can be eaten by zooplankton thus enter the foodchain. Therefore picking up plastic debris while still intact and as soon as possible after their disposal supports and complement in the short term all the high level policy actions for litter prevention (minimisation of waste, use of biodegradable plastic, awareness raising, beach clean up days etc.). This study aims to check the attractiveness of the innovation to the market involving potential customers (coast towns, associations of tourist and fishing ports and marinas, representatives from the cruise and hotels industry, marine natural reserves authorities). The first markets identified are on the Mediterranean Sea, which is at the center of a very highly populated area of the World with many Countries relying mostly on tourism. Studies confirm that the Med has mostly marine litter derived from this economic activity and up to 80% of it originating from land. Italy, with its over 7600km long coastline and a strong dependency upon tourism, will be the first market, followed suit by France and Croatia and then Spain and Greece. After a 3 year phase to cover development, industrialisation and commercialisation, production is expected to start in 2019, with employment of 17 new staff.

Project's Participants List

Sea Litter Critters

A compact, unmanned, renewables-powered and self-sufficient vessel able to pick up marine litter and to treat it on board for volume reduction and energy recovery

Project's participants	Name	Country
1	IRIS SRL	IT

SubCage

Submersible Tension Leg Fish Cage for Mariculture in Unsheltered and Offshore Areas

At a glance

Project number: 712119

Acronym: SubCage

Title: Submersible Tension Leg Fish Cage for Mariculture in Unsheltered and Offshore Areas

Call: H2020-SMEINST-1-2015

Topic/ BG-12-2015-1

Instrument: SME - phase 1

Start date: 1/12/2015

End date: 31/05/2016

Duration: 6 months

Total Cost: € 71,429.00

EC Contribution: € 50,000.00

Consortium: 1 participant

Project Coordinator: REFA MED SRL (NO)

Abstract

Aquaculture has done reasonably well to supplement the expanding consumption of fish and seafood in the EU but has still been unable to have the desired impact because of the high set up, operating and maintenance costs; lack of space along the coastal shores; pollution and threats of diseases and eutrophication. Hence, we developed SubCage – a working proof of concept prototype to TRL 6 which is based on a patented Tension Leg Cage (TLC) technology capable of submerging fish cages to depths of up to 55 m at a controlled velocity based on the principle of wave ispersion. This prototype is a 12 m diameter fully submersible fish cage, which has been tested for 2 years in Crete using red porgy. This was successfully demonstrated as there were no issues during the operation and thus confirmed that SubCage satisfies all customer needs, such as: cost benefit solution for fish farming in unsheltered area; increase of fish quality; improvement of fish health and mortality rate. Despite the risk surrounding aquaculture in the unsheltered regions due to its environment; we proved that, by using SubCage, expanding production capabilities in such areas is feasible, commercially beneficial to farmers and can increase the value of the fish species. With the help of the SME instrument in scaling up our prototype to a 30-55 m diameter commercially acceptable fish cage, we would expect to contribute to an increase in fish price of up to 20% and additional increase in yield of up to 2% in comparison with surface cages. In comparison with competitor technologies, our prices will be several times lower by 30-40% as well as an estimated ROI being achievable in approximately 3 years. Within 5 years, we can humbly anticipate to enhance the production capacity of the EU by 2%. This translates to Refa Med Srl. deploying 402 SubCage units in the EU within 5 years, generating a revenue stream of over €80 million and helping create between 300 and 400 product-related full-time jobs.

Project's Participants List

SubCage

Submersible Tension Leg Fish Cage for Mariculture in Unsheltered and Offshore Areas

Project's participants	Name	Country
1	REFA MED SRL	NO

TELWIND

INTEGRATED TELESCOPIC TOWER AND EVOLVED SPAR FLOATING SUBSTRUCTURE FOR LOW-COST DEEP OFFSHORE WIND AND NEXT GENERATION OF 10MW+ TURBINES

At a glance

Project number: 654634

Acronym: TELWIND

Title: INTEGRATED TELESCOPIC TOWER AND EVOLVED SPAR FLOATING SUBSTRUCTURE FOR LOW-COST DEEP OFFSHORE WIND AND NEXT GENERATION OF 10MW+ TURBINES

Call: H2020-LCE-2015-1-two-stage

Topic: LCE-02-2015

Instrument: Research and innovation action

Start date: 1/12/2015

End date: 31/05/2018

Duration: 30 months

Total Cost: € 3,498,530.00

EC Contribution: € 3,498,530.00

Consortium: 8 participants

Project Coordinator: ESTEYCO SAP (ES)

Abstract

TELWIND unites a strong complimentary team of renowned European companies and research institutions, which join forces to develop a revolutionary integrated floating offshore system. The concept, which has already undergone trial tank testing with overly positive results, shall enable a radical cost reduction both in terms of material usage and required means and operations. The system has been conceived in a holistic approach to the overall substructure, tower and turbine, generating ground breaking synergies between the integrated elements to specifically address the particular requirements of offshore wind, focusing in the capacity for low-cost industrialization in the inshore construction and offshore installation processes. The Telwind concept integrates a novel floating substructure and a pioneer self-erecting telescopic tower. The former provides all the performance advantages of a spar-buoy substructure while allowing for qualitatively lower material usage, the latter enables a full onshore preassembly of the overall system and a highly beneficial reduction of offshore works and auxiliary means. Together they overcome the limitations imposed by the available inshore infrastructure and offshore heavylift vessels, and thus generate a fully scalable system, perfectly fitted for the effective integration of the next generation of extremely large (10MW+) offshore wind turbines which are key to enhance the reduction of the Levelised Cost of Energy (LCOE). The system will also profit from the proven structural efficiency and economy of precast concrete, a material particularly well suited for low-cost industrialized production of repetitive units. Robust, reliable and virtually maintenance-free marine constructions result, reducing OPEX costs, greatly increasing durability and fatigue tolerance, and setting the ground for extended service life of the infrastructure, which could further magnify the system's capacity for drastic reduction of the LCOE.

Project's Participants List

TELWIND

INTEGRATED TELESCOPIC TOWER AND EVOLVED SPAR FLOATING SUBSTRUCTURE FOR LOW-COST DEEP OFFSHORE WIND AND NEXT GENERATION OF 10MW+

Project's participants	Name	Country
1	ESTEYCO SAP	ES
2	ALE HEAVYLIFT (R&D) BV	NL
3	MECAL WIND TURBINE DESIGN BV	NL
4	UNIVERSIDAD DE CANTABRIA	ES
5	CENTRO DE ESTUDIOS Y EXPERIMENTACION DE OBRAS PUBLICAS - CEDEX	ES
6	COBRA INSTALACIONES Y SERVICIOS S.A	ES
7	DYWIDAG SYSTEMS INTERNATIONAL GMGH	DE
8	TECHNISCHE UNIVERSITAET MUENCHEN	DE

Timed

Testing the role of Mediterranean thermohaline circulation as a sensor of transient climate events and shaker of North Atlantic Circulation

At a glance

Project number: 683237

Acronym: Timed

Title: Testing the role of Mediterranean thermohaline circulation as a sensor of transient climate events and shaker of North Atlantic Circulation

Call: ERC-2015-CoG

Topic: ERC-CoG-2015

Instrument: ERC-COG - Consolidator Grant

Start date: 01/01/2017

End date: 31/12/2021

Duration: 60 months

Total Cost: € 2,400,000.00

EC Contribution: € 2,400,000.00

Consortium: 2 participants

Project Coordinator: UNIVERSITAT DE BARCELONA (ES)

Abstract

The Mediterranean Sea is an excellent sensor of transient climate conditions at different time scales. Changes in Mediterranean water properties result from complex interactions between the Atlantic inflow, local climate and north and south atmospheric teleconnections. In turn, Mediterranean outflow waters spill into the Atlantic Ocean, thus acting as a net salt and heat source for the Atlantic Meridional Overturning Circulation (AMOC). Climate models anticipate changes in these circulation systems within decades; thus it becomes critical to understand the natural range of variations in the Mediterranean Thermohaline Circulation (MedTHC) and whether these can alter the AMOC. An innovative approach, based on both well-established and newly-developed analytical methods will be applied to characterize, qualitatively and quantitatively, past changes in the MedTHC dynamics. Specific time windows representing very different transient periods (18-14 ka BP; 9.5-6.5 ka BP and the last 2 kyr) will be targeted in order to understand the distinctive role that individual forcing mechanisms exerted in controlling MedTHC changes. Particular emphasis will be placed on building robust regional chronologies and proxy records with unprecedented high-resolution. This approach will combine proxy data from sediment cores and deep-sea corals along the main paths of water masses as they cross the Mediterranean basins and exit into the North Atlantic. This paleo-data analysis will be complemented with novel climate model paleo-simulations to test the sensitivity of the AMOC to changes in Mediterranean outflow under varying AMOC conditions. The main goals are to identify: (1) The natural range of MedTHC variability; (2) The forcings and inter-regional teleconnections driving MedTHC changes; (3) The associated impact onto the AMOC. The assessment of the forcings controlling MedTHC and the ensuing impact on the AMOC will allow us to gauge the consequences of future Mediterranean changes.

Project's Participants List

Timed

Testing the role of Mediterranean thermohaline circulation as a sensor of transient climate events and shaker of North Atlantic Circulation

Project's participants	Name	Country
1	UNIVERSITAT DE BARCELONA	ES
2	CONSIGLIO NAZIONALE DELLE RICERCHE	IT

BLUEMED

At a glance

Project number: 727453

Acronym: BLUEMED

Title: BLUEMED

Call: H2020-BG-2016-1

Topic: BG-13-2016

Instrument: Coordination and support action

Start date: 01/10/2016

End date: 30/09/2020

Duration: 48 months

Total Cost: € 2,998,000.00

EC Contribution: € 2,998,000.00

Consortium: 11 participants

Project Coordinator: CONSIGLIO NAZIONALE DELLE RICERCHE (IT)

Abstract

The BLUEMED Project is a Coordination and Support Action for the exploitation of the BLUEMED Research and Innovation Initiative for blue jobs and growth in the Mediterranean area, with particular reference to the implementation of the BLUEMED Strategic Research and Innovation Agenda (SRIA). The ultimate objective is to support the activation of sustainable 'blue' innovation and growth, by fostering integration of knowledge and efforts of relevant stakeholders from EU Member States of the Mediterranean Basin, and then among these, other EU and non-EU Countries. To this end, the project will set the scene for the effective coordination of marine and maritime research and innovation activities in the long term. In particular, the Work Package 2 will consolidate the BLUEMED SRIA, develop the BLUEMED Implementation Plan, and promote joint implementation. Four dedicated working Platforms on knowledge, economy, technology, and policy will be set up to allow representatives from research, private sector, public administration, and civil society to work together, pivoting on identified key players of these sectors at national level. The Work Package 3 will address relevant framework conditions for efficiently implementing actions, including indicators and assessment methodologies, and key enabling factors such as research infrastructures, data policies, and human resources. Feasibility studies on specific priorities will be developed by the Start-up Actions under Work Package 4. The Work Package 5 will be finally devoted to enlarge the participation to non-EU countries, through connection with project and other suitable activities for promoting the BLUEMED concept and involve all countries in the perspective of a global Mediterranean. The coordination and management of the project, the functioning of the governance as well as communication and dissemination activities will be carried out within Work Package 1.

Project's Participants List

BLUEMED

Project's participants	Name	Country
1	CNR CONSIGLIO NAZIONALE DELLE RICERCHE	IT
2	RESEARCH PROMOTION FOUNDATION IDRYMA PROOTHISIS EREVNAS	CY
3	MINECO MINISTERIO DE ECONOMIA Y COMPETITIVIDAD	ES
4	IEO INSTITUTO ESPANOL DE OCEANOGRAFIA	ES
5	CNRS CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE CNRS	FR
6	INSTITUT FRANCAIS DE RECHERCHE POUR L'EXPLOITATION DE LA MER	FR
7	HELLENIC CENTRE FOR MARINE RESEARCH	EL
8	INSTITUTE OF OCEANOGRAPHY AND FISHERIES INSTITUT ZA OCEANOGRAFIJU I RIBARSTVO	HR
9	MINISTRY FOR EDUCATION AND EMPLOYMENT	MT
10	DGPM DIRECAO-GERAL DE POLITICA DO MAR	PT
11	NIB NACIONALNI INSTITUT ZA BIOLOGIJO	SI

FiDaCaMS

Fisheries Data Capture and Management System

At a glance

Project number: 735732

Acronym: FiDaCaMS

Title: Fisheries Data Capture and Management System

Call: H2020-SMEINST-1-2016-2017

Topic: SMEInst-08-2016-2017

Instrument: SME – Phase 1

Start date: 01/08/2016

End date: 31/01/2017

Duration: 6 months

Total Cost: € 71,429.00

EC Contribution: € 50,000.00

Consortium: 3 participants

Project Coordinator: LOQUS FLEET LIMITED (MT)

Abstract

The aim of the FiDaCaMS project is to build a new innovative system that enables fishermen to collect accurate and reliable fisheries and related environmental data in an automated and highly efficient form.

One of the major issues across the marine environment is that increasingly stringent management controls are being implemented requiring clear & hard evidence to support management decisions. In the absence of such evidence the precautionary approach is adopted, creating restrictions for commercial fishing activities amongst others. At the same time the available resources to gather the evidence centrally is being cut, thus widening the gap between the need and availability of evidence. To aid the fishing industry meet the pressing needs they must be equipped with appropriate tools that collect the evidence in a robust and automated form.

The successful implementation of FiDaCaMS will provide the technology necessary for the collection and aggregation of the required data and rendering it available through an online platform in multiple formats across diverse media thus facilitating the adoption of the regulations set by the EU and the local governments.

During an event held in Brussels on 5th April 2016 - Info Day for Blue Growth, it was expressed that this sector lacks innovation for Blue Economy specifically in 3 areas (a) lack of highly skilled professionals (b) under investment in Knowledge and technology and (c) a slow process from research results to the commercial stage. The FiDaCaMS project aims to contribute towards overcoming all 3 obstacles. (a) Employ and train professionals, (b) invest in R&D to continue to innovate and create new technologies and to (c) accelerate market presence and penetration.

The FiDaCaMS project is a joint venture between 3 commercial entities each having their own area of expertise to create a fully integrated data acquisition solution from the vessel to the end users.

Project's Participants List

FiDaCaMS
Fisheries Data Capture and Management System

Project's participants	Name	Country
1	LOQUS FLEET LIMITED	MT
2	SUCCORFISH M2M LIMITED	UK
3	MWS LIMITED	UK

MARINE-EO

Bridging Innovative Downstream Earth Observation and Copernicus enabled Services for Integrated maritime environment, surveillance and security

At a glance

Project number: 730098

Acronym: MARINE-EO

Title: Bridging Innovative Downstream Earth Observation and Copernicus enabled Services for Integrated maritime environment, surveillance and security

Call: H2020-EO-2016

Topic: EO-2-2016

Instrument: PCP

Start date: 01/01/2017

End date: 30/11/2020

Duration: 47 months

Total Cost: € 4,865,093.75

EC Contribution: € 4,378,584.38

Consortium: 9 participants

Project Coordinator: NATIONAL CENTER FOR SCIENTIFIC RESEARCH "DEMOKRITOS" (EL)

Abstract

Maritime "Awareness" is currently a top priority for Europe. "Awareness" sought either in regards of maritime security, border control against irregular immigration and safety of navigation while at the same time "awareness" sought in regards of the marine environment and climate change. "Awareness" is sought both for sea-basins of traditional interest like the Mediterranean and the Atlantic as well as for basins currently trending like the Arctic. MARINE-EO teams up a group of 5 maritime authorities (the buyers' group) and a group of 4 prestigious scientific and technical organizations with significant experience in EO and maritime matters (the technical advisors) to achieve the following objectives: (1) Develop, test and validate two set of demand-driven EO-based services which cover Marine Monitoring and Security Copernicus thematic areas, adopted on open standards, bringing incremental or radical innovations in the field of maritime awareness and leveraging on the existing Copernicus Services and other products from the Copernicus portfolio, (2) Propose a set of "support" / "envelop" services which will better integrate the above mentioned EO and Copernicus-enabled services to the operational logic and code of conduct. Such services shall also bring "closer" the demand side (Public Authorities - PAs) with the EO data providers (Copernicus - contributing missions) and EO data experts and analysts (Service providers/ industry and SMEs) creating a dynamic environment for a single digital market to grow, (3) Strengthen transnational collaboration in maritime awareness sector by facilitating knowledge transfer and optimization of resources for the public authorities which, participate in the buyers group. Pre-Commercial Procurement (PCP) is a powerful tool to tackle these three points under one single joint initiative, and this is why MARINE-EO is in an excellent position to reinforce future capabilities.

Project's Participants List

MARINE-EO

Bridging Innovative Downstream Earth Observation and Copernicus enabled Services for Integrated maritime environment, surveillance and security

Project's participants	Name	Country
1	NATIONAL CENTER FOR SCIENTIFIC RESEARCH "DEMOKRITOS"	EL
2	DIRECAO-GERAL DE POLITICA DO MAR	PT
3	MINISTERIO DEL INTERIOR	ES
4	HELLENIC CENTRE FOR MARINE RESEARCH	EL
5	FUNDO REGIONAL PARA A CIENCIA E TECNOLOGIA	PT
6	KYSTVERKET VEST	NO
7	NATIONAL OBSERVATORY OF ATHENS	EL
8	EUROPEAN UNION SATELLITE CENTRE	ES
9	NORSK MARINTEKNISK FORSKNINGSINSTITUTT AS	NO

At a glance

Project number: 727451

Acronym: MUSES

Title: Multi-Use in European Seas

Call: H2020-BG-2016-1

Topic: BG-03-2016

Instrument: Coordination and support action

Start date: 01/11/2016

End date: 31/10/2018

Duration: 24 months

Total Cost: € 1,987,603.88

EC Contribution: € 1,982,104.38

Consortium: 10 participants

Project Coordinator: MARINE SCOTLAND (UK)

Muses

Multi-Use in European Seas

Abstract

The Multi-Use in European Seas (MUSES) project will review existing planning and consenting processes against international quality standards for MSP and compliance with EU Directives used to facilitate marine and coastal development in the EU marine area to ensure that they are robust, efficient and facilitate sustainable multi use of marine resources. The project will build knowledge of the appropriate techniques to minimize barriers, impacts and risks, whilst maximising local benefits, reducing gaps in knowledge to deliver efficiencies through integrated planning, consenting processes and other techniques. MUSES Project - 3 main pillars: 1. Regional overviews which take into account EU sea basins (Baltic Sea, North Sea, Mediterranean Sea, Black Sea and Eastern Atlantic) will be based on an analytical framework to facilitate adoption of a common approach across the sea basins. The progress in implementation of the concept of Multi-Uses in European Sea Basins will be assessed and key obstacles and drivers identified. 2. A comprehensive set of case studies of real and/or potential multi-use will be conducted and analysed to provide a complete spectrum of advantages in combining different uses of the sea. The case studies will create local stakeholder platforms to identify multi-use potentiality, opportunities and limitations. 3. Development of an Action Plan to address the challenges and opportunities for the development of Multi-Uses of oceans identified in the regional overviews and case studies. Provide recommendations for future action, taking into account national, regional and sea basin dimensions. The project will build on work undertaken in other studies including Mermaid, TROPOS, H2Ocean and SUBMARINER. MUSES project partners have direct links with related forums including The Ocean Energy Forum (OEF) which will assist understanding of many issues that need to be addressed at an EU level and could help facilitate and implement the OEF roadmap.

Project's Participants List

Muses

Multi-Use in European Seas

Project's participants	Name	Country
1	MARINE SCOTLAND	UK
2	UNIVDUN UNIVERSITY OF DUNDEE	UK
3	SUBMARINER NETWORK FOR BLUE GROWTH EWIV	DE
4	INSTYTUT MORSKI W GDANSKU	PL
5	THETIS SPA	IT
6	CNR CONSIGLIO NAZIONALE DELLE RICERCHE	IT
7	HELLENIC CENTRE FOR MARINE RESEARCH	EL
8	FGF FUNDACAO GASPAR FRUTUOSO	PT
9	ECORYS NEDERLAND B.V.	NL
10	AWI ALFRED-WEGENER-INSTITUTHELMHOLTZ- ZENTRUM FUER POLAR- UND MEERESFORSCHUNG	DE

MedAID

Mediterranean Aquaculture Integrated Development

At a glance

Project number: 727315

Acronym: MedAID

Title: Mediterranean Aquaculture Integrated Development

Call: H2020-SFS-2016-2

Topic: SFS-23-2016

Instrument: Research and innovation action

Start date / End date: Grant agreement under preparation

Duration: 48 months

Total Cost: € 6,999,996.25

EC Contribution: € 6,999,996.25

Consortium: 34 participants

Project Coordinator: Mediterranean Agronomic Institute of Zaragoza / International Centre for Advanced Mediterranean Agronomic Studies (IAMZ - CIHEAM), (ES)

Abstract

Production and productivity of Mediterranean marine fish aquaculture, mainly seabass and seabream, are stagnating or growing slowly as a result of multiple and interrelated causes. To accomplish the objective of improving its competitiveness and sustainability, MedAID is structured in a first interdisciplinary WP to assess technical, environmental, market, socioeconomic and governance weaknesses, and in several specialized WPs exploring innovative solutions, followed by an integrating WP, which will provide codes of practice and innovative toolboxes throughout the value chain to enhance the sector performance holistically. Various stakeholders will interact in the consultation, communication, dissemination and training WPs ensuring practical orientation of the project and results implementation. Biological performance (nutrition, health and genetics) will be scrutinized to identify and quantify the relevant components to improve Key Performance Indicators (KPIs: growth rates, mortality and feed efficiency), thus contributing to increase production efficiency. Economic, business, marketing, environmental, social, administrative and legal factors will be addressed to obtain integrated solutions to shift towards a market oriented and consumer-responsible business and to face the multiple administrative, environmental and social issues constraining competitiveness and public acceptance. An interdisciplinary consortium of research and industrial partners will carry out R&D and case study activities to close the existing gaps. Mediterranean countries (EU and non-EU) with significant aquaculture production are represented. Northern European R&D institutions will participate by bringing successful technological tools and integrated approaches that Mediterranean aquaculture is missing today.

MedAID will impact the sector positively by providing innovative tools, integrated marketing and business plans and by improving the sector image, sustainability and governance.

Project's Participants List

MedAID

Mediterranean Aquaculture Integrated Development

Project's participants	Name	Country
1	International Centre for Advanced Mediterranean Agronomic Studies (IAMZ - CIHEAM)	ES
2	INSTITUT DE RECERCA I TECNOLOGIA AGROALIMENTARIES (IRTA)	ES
3	NOFIMA AS (NOFIMA)	NO
4	VETERINAERINSTITUTTET - NORWEGIAN VETERINARY INSTITUTE (NVI)	NO
5	UNIVERSIDAD DE CANTABRIA (UC)	ES
6	INSTITUT FRANCAIS DE RECHERCHE POUR L'EXPLOITATION DE LA MER (Ifremer)	FR
7	FUNDACION AZTI - AZTI FUNDAZIOA (AZTI-Tecnalia)	ES
8	HELLENIC CENTRE FOR MARINE RESEARCH (HCMR)	EL
9	HRVATSKI VETERINARSKI INSTITUT (HVI)	HR
10	DANMARKS TEKNISKE UNIVERSITET (DTU)	DK
11	AARHUS UNIVERSITET (AU)	DK
12	KOBENHAVNS UNIVERSITET (UCPH)	DK
13	NATIONAL INSTITUTE OF OCEANOGRAPHY AND FISHERIES (NIOF)	EG
14	SCEA LES POISSONS DU SOLEIL (PDS)	FR
15	SELARL DU DOCTEUR ALAIN LE BRETON (VET'EAU)	FR
16	AVDELAS LAMPRAKIS (AVDELAS L.)	EL
17	ISTITUTO ZOOPROFILATTICO SPERIMENTALE DELLE VENEZIE (IZSVE)	IT
18	ALMA MATER STUDIORUM - UNIVERSITA DI BOLOGNA (UNIBO)	IT
19	NISEA SOCIETA COOPERATIVA (NISEA)	IT
20	WAGENINGEN UNIVERSITY (WU)	NL
21	SAMFUNNS-OG NAERINGSLIVSFORSKNING AS (SNF AS)	NO
22	CENTRO DE CIENCIAS DO MAR DO ALGARVE (CCMAR)	PT
23	DIBAQ DIPROTEG SA (DIBAQ)	ES
24	INSTITUTO NACIONAL DE INVESTIGACION Y TECNOLOGIA AGRARIA Y ALIMENTARIA (INIA)	ES
25	Institut National des Sciences et Technologies de la Mer (INSTM)	TN
26	EGE UNIVERSITESI (EGE)	TR
27	GALAXIDI MARINE FARM AE (GMF)	EL
28	STICHTING WAGENINGEN RESEARCH (DLO)	NL
29	UNIVERSIDAD DE MURCIA (UM)	ES
30	UNIVERSITE DE BRETAGNE OCCIDENTALE (UBO)	FR
31	AZIENDA ITTICA IL PADULE DI FORNACIARI NAIDA & C SOCIETA AGRICOLA SEMPLICE (Azienda Ittica)	IT
32	COMPAGNIE ITTICHE RIUNITE SOCIETA'AGRICOLA SRL (CIR)	IT
33	FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS FAO (FAO of the UN)	IT
34	THE UNIVERSITY OF EDINBURGH (UEDIN)	UK

ODYSSEA

OPERATING A NETWORK OF INTEGRATED OBSERVATORY SYSTEMS IN THE MEDITERRANEAN SEA

At a glance

Project number: 727277

Acronym: ODYSSEA

Title: OPERATING A NETWORK OF INTEGRATED OBSERVATORY SYSTEMS IN THE MEDITERRANEAN SEA

Call: H2020-BG-2016-2

Topic: BG-12-2016

Instrument: Research and innovation action

Start date / End date: Grant agreement under preparation

Duration: 54 months

Total Cost: € 8,398,716.25

EC Contribution: € 8,398,716.00

Consortium: 28 participants

Project Coordinator: DEMOCRITUS UNIVERSITY OF THRACE (DUTH), (EL)

Abstract

ODYSSEA will develop, operate and demonstrate an interoperable and cost-effective platform that fully integrates networks of observing and forecasting systems across the Mediterranean basin, addressing both the open sea and the coastal zone. The platform will collect its data from the many databases maintained by agencies, public authorities, and institutions of Mediterranean EU and non-EU countries, integrating existing earth observation facilities and networks in the Mediterranean Sea building on key initiatives such as Copernicus, GEOSS, GOOS, EMODNet, ESFRI, Lifewatch, Med-OBIS, GBIF, AquaMaps, Marine IBA e-atlas, MAPAMED and others with marine and maritime links. Through ODYSSEA's end-user centred approach, in which the various groups of end-users and stakeholders, within and external to the Consortium, will be involved from Day 1 of the project in the design, development and operation of the platform, including identification of gaps in data collection and accessibility. High priority gaps will be filled through multiple approaches that include developing a network of coastal observatories, deploying novel in-situ sensors at sea (a.o. microplastic sensors), oceanographic modelling and integrating existing mobile apps for citizen scientist networks. Applying advanced algorithms to organise, homogenise and fuse the large quantities of data in common standard type and format as well as other types of formats, the ODYSSEA platform will provide both primary data and on-demand derived data services, including forecasts, from ALL Mediterranean countries through a SINGLE PUBLIC PORTAL to various end-user groups and stakeholders. End-user requirements will drive the creation of secondary data sets which the platform will provide as new and packaged services matching the specialised information needs of users. ODYSSEA will improve accessibility to existing data as well as increase the temporal and geographic coverage of observational data in the Mediterranean.

Project's Participants List

ODYSSEA

OPERATING A NETWORK OF INTEGRATED OBSERVATORY SYSTEMS IN THE

Project's participants	Name	Country
1	DEMOCRITUS UNIVERSITY OF THRACE (DUTH)	EL
2	FOUNDATION FOR RESEARCH AND TECHNOLOGY HELLAS (FORTH)	EL
3	ISRAEL INSTITUTE OF TECHNOLOGY (TECHNION)	IL
4	FUNDACION INSTITUTO PORTUARIO DE ESTUDIOS Y COOPERACION DE LA COMUNIDAD VALENCIANA (FEPORTS)	ES
5	UNIVERSITA DEGLI STUDI DI ROMA LA SAPIENZA (SAPIENZA)	IT
6	WCMC LBG (WCMC)	UK
7	REGIONAL ACTIVITY CENTRE FOR SPECIALLY PROTECTED AREAS (RAC/SPA)	TN
8	BLUE LOBSTER IT LIMITED (BLIT)	UK
9	STICHTING DELTARES (Deltares)	NL
10	ALSEAMAR (ALSEAMAR)	FR
11	ACONDICIONAMIENTO TARRASENSE ASSOCIACION (LEITAT)	ES
12	Association de Gestion Intégrée des Ressources (AGIR)	MA
13	SARL NORD SUD VENTURES (NSV)	DZ
14	ASSOCIATION NATIONALE DE DEVELOPPEMENT DURABLE ET DE LA CONSERVATION DE LA VIE SAUVAGE (ANDDCVS)	TN
15	ARAB NETWORK FOR ENVIRONMENT & DEVELOPMENT (RAED)	EG
16	ISTANBUL UNIVERSITESI (IU)	TR
17	HELLENIC CENTRE FOR MARINE RESEARCH (HCMR)	EL
18	HIDROMOD MODELACAO EM ENGENHARIA LDA (HIDROMOD)	PT
19	ALMA MATER STUDIORUM - UNIVERSITA DI BOLOGNA (UNIBO)	IT
20	DEVELOGIC GMBH (DEVELOGIC)	DE
21	GTD SISTEMAS DE INFORMACION SA (GTD)	ES
22	ASSOCIATION ECO OCEAN (ECOOCEAN)	IL
23	THE SOCIETY FOR THE PROTECTION OF NATURE IN ISRAEL (SPNI)	IL
24	ARISTOTELIO PANEPISTIMIO THESSALONIKIS (AUTH)	EL
25	COLLECTE LOCALISATION SATELLITES SA (CLS)	FR
26	THALES SA (THALES)	FR
27	EDISOFT-EMPRESA DE SERVICOS E DESENVOLVIMENTO DE SOFTWARE SA (EDISOFT)	PT
28	AGORA P.S.V.D. (AGORA)	IL

PerformFISH

Consumer driven Production: Integrating Innovative Approaches for Competitive and Sustainable Performance across the Mediterranean Aquaculture Value Chain

At a glance

Project number: 727610

Acronym: PerformFISH

Title: Consumer driven Production: Integrating Innovative Approaches for Competitive and Sustainable Performance across the Mediterranean Aquaculture Value Chain

Call: H2020-SFS-2016-2

Topic: SFS-23-2016

Instrument: Research and innovation action

Start date / End date: Grant agreement under preparation

Duration: 60 months

Total Cost: € 7,045,060.74

EC Contribution: € 6,997,060.75

Consortium: 28 participants

Project Coordinator: PANEPISTIMIO THESSALIAS (UTH), (EL)

Abstract

Gilthead sea bream and European sea bass are by volume the third and fourth most farmed fish species in the EU, while their collective value surpasses that of salmon, trout or mussel. These two species are farmed and contribute significantly to wealth and job creation in rural and coastal areas in all EU Mediterranean countries. However, production of sea bream/bass in the EU has remained stagnant for the last decade and the industry faces significant sustainability challenges.

The overarching objective of PerformFISH is to increase the competitiveness of Mediterranean aquaculture by overcoming biological, technical and operational issues with innovative, cost-effective, integrated solutions, while addressing social and environmental responsibility and contributing to "Blue Growth". PerformFISH adopts a holistic approach constructed with active industry involvement to ensure that Mediterranean marine fish farming matures into a modern dynamic sector, highly appreciated by consumers and society for providing safe and healthy food with a low ecological footprint, and employment and trade in rural, peripheral regions. PerformFISH brings together a representative multi-stakeholder, multi-disciplinary consortium to generate, validate and apply new knowledge in real farming conditions to substantially improve the management and performance of the focal fish species, measured through Key Performance Indicators. At the core of PerformFISH design are, a) a link between consumer demand and product design, complemented with product certification and marketing strategies to drive consumer confidence, and b) the establishment and use of a numerical benchmarking system to cover all aspects of Mediterranean marine fish farming performance. Created knowledge and innovative solutions will underpin the developed code of conduct and good practices and will foster modernization through capacity building of the Mediterranean aquaculture workforce.

Project's Participants List

PerformFISH

Consumer driven Production: Integrating Innovative Approaches for Competitive and Sustainable Performance across the Mediterranean Aquaculture Value Chain

Project's participants	Name	Country
1	PANEPISTIMIO THESSALIAS (UTH)	EL
2	UNIVERSIDAD DE LAS PALMAS DE GRAN CANARIA (ULPGC)	ES
3	ASOCIACION EMPRESARIAL DE PRODUCTORES DE CULTIVOS MARINOS (APROMAR)	ES
4	SYNDESMOS ELLHNIKON THALASSOKALLIERGEION SOMATEO (FGM)	EL
5	ASSOCIAZIONE PISCICOLTORI ITALIANI (API)	IT
6	CROATIAN CHAMBER OF ECONOMY (CCE)	HR
7	AGENCIA ESTATAL CONSEJO SUPERIOR DEINVESTIGACIONES CIENTIFICAS (CSIC)	ES
8	HELLENIC CENTRE FOR MARINE RESEARCH (HCMR)	EL
9	INSTITUT NATIONAL DE LA RECHERCHE AGRONOMIQUE (INRA)	FR
10	CENTRO DE CIENCIAS DO MAR DO ALGARVE (CCMAR)	PT
11	PANEPISTIMIO KRITIS (UOC)	EL
12	UNIVERSITAT AUTONOMA DE BARCELONA (UAB)	ES
13	UNIVERSITA DEGLI STUDI DI UDINE (UNIUD)	IT
14	UNIVERSITA DEGLI STUDI DI PADOVA (UNIPD)	IT
15	SINTEF OCEAN AS (SINTEF)	NO
16	AquaTT UETP Ltd (AquaTT)	IE
17	PANAGIOTIS CHRISTOFILOGIANNIS - IOANA TAVLA (AQUARK)	EL
18	AQUAXPRS LTD (AQUAxprs)	UK
19	SPAROS LDA SPAROS (LDA)	PT
20	Istituto Superiore per la Protezione e la Ricerca Ambientale (ISPRA)	IT
21	SYNDICAT FRANCAIS AQUACULTURE MARINE NOUVELLE (SFAMN)	FR
22	RUDER BOSKOVIC INSTITUTE (RBI)	HR
23	CONSIGLIO NAZIONALE DELLE RICERCHE (CNR)	IT
24	INTERNATIONAL ORGANISATION FOR THE DEVELOPMENT OF FISHERIES IN EASTERN AND CENTRAL EUROPE (EUROFISH)	DK
25	ALMA MATER STUDIORUM - UNIVERSITA DI BOLOGNA (UNIBO)	IT
26	SYNDICAT DES SELECTIONNEURS AVICOLES ET AQUACOLES FRANCAIS (SYSAAF)	FR
27	SKRETTING AQUACULTURE RESEARCH CENTRE AS (ARC)	NO
28	CLUSTER DE LA ACUICULTURA DE GALICIA ASOCIACION (CETGA)	ES


European
Commission