

# **Empower Academia for Knowledge Transfer for Value Creation in the Atlantic Area**

## **WP3 – Capitalization**

### **Deliverable 1 - Task 1 - WP3 – Alignment with previous national, European and international projects**

### **Maritime Strategy Background Report**

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## Deliverable Task 1 - Alignment with previous national, European and international projects

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## 1. Introduction

### 1.1 About EMPORIA4KT

Cultural diversity harmonization between the triple innovation helix key players (academia, business, government) is vital to foster knowledge transfer (KT) & innovation. While businesses are profit oriented and governments' focus on economic development, academia motivation is knowledge creation, developing innovative early stage technologies (EST) that often do not reach market. Knowledge on market needs and early-stage funding are necessary to take EST 1-step further in the innovation chain, increasing its attractiveness to industry.

EMPORIA4KT "Empower academia for knowledge transfer for value creation in the Atlantic Area" is a project funded under the Interreg Atlantic Area (AA) European Regional Development Fund of the European Union, within the Thematic Priority of Innovation and Competitiveness.

EMPORIA4KT aims to improve transnational cooperation and synergies between triple helix players to foster innovation and competitiveness in AA's blue economy, by focusing on upgrading Academia skills for knowledge transfer (KT) and innovation. It will enable the design of market directed Research, Development & Innovation (RDI) projects. It will influence improvements in public policy through mapping RDI and KT capability, capacity and supportive funding tools in the programme area. The project has a duration of 36 months, from 1 March 2019 to 28 February 2022. The project is being implemented by a consortium of 14 partners from 5 countries, namely Portugal, Ireland, Spain, France and the UK.

EMPORIA4KT will improve transnational cooperation and synergies between triple helix players to foster innovation and competitiveness by focusing on upgrading Academia KT & innovation skills in blue economy. Specifically, it will:

- a. Identify & share best practices in KT & innovation, focusing on the role of Academia to foster cooperation between triple helix players;
- b. Develop a Joint Action Plan (JAP) to enhance KT & innovation capacity to foster AA's Blue Economy competitiveness at regional, interregional & transnational level;
- c. Advance risk assessment and cost effectiveness tools to de-risk EST that respond to a Blue Economy market need;
- d. Develop and share an operational tool to build capacity in Academia in KT and innovation;

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- e. Positively influence policy through assessment of regional RDI capacity and funding tools to mature EST for KT, ensuring cost efficient exploitation of resources, so that best value for money on investment made by public & private bodies is achieved.

The project is divided into different Work Packages (WP), which are structured in the following way:

- **Work Package 1** – Coordination
- **Work Package 2** – Communication
- **Work Package 3** – Capitalization
- **Work Package 4** – Identify social-economic needs & trends in Blue Economy triple helix in the Atlantic Area
- **Work Package 5** – Mature risk assessment and cost effectiveness tools
- **Work Package 6** – KT & Innovation capacity building workshops
- **Work Package 7** – Academia Innovation enhancer EST best route to commercialization to generate socio-economic value
- **Work Package 8** – Create a positive influence in public innovation policies and funding mechanisms for EST KT

### 1.2 WP Nr.3. “Capitalization”

Capitalization is of foremost importance to the success of a project and the applicability of its results. In many cases, capitalisation is linked to communication and its effective reach, while it should be also content-related and linked to evaluation. Finally, the emphasis should be put on the importance of increasing the awareness of more and different stakeholders. In this sense, a capitalization strategy will be developed, aiming at meeting the expected impacts envisioned within the project.

The capitalization strategy will be implemented throughout the lifecycle of the project ensuring:

- knowledge created will build from previous projects dedicated to blue economy and aligned with EU Blue Growth Initiative, Atlantic Action Plan and RIS3;
- profiling relevant blue economy sectors in each region including a SWOT analysis and research capability assessment, to enable benchmarking and future comparisons;
- industry needs and market opportunities in Blue economy in AA regions are captured and disseminated, encompassing the interregional, national and transnational dimensions;

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- synergies are fostered between triple helix players, to improve the network of private investors in Blue economy;
- the Academia Technology Enhancer (composed by the methodology to capture market needs) operational tool for upgrading academia skills in KT & innovation, including the risk assessment and financial model, has long term application, being available online. The Academia Technology Enhancer operational tool has also the capacity of being adapted to other Economy sectors, thus increasing the scope of action to other fields of science and technology;
- identification of public policies and funding tools improvements to promote innovation in Blue economy are carried forward into the future, using partnership network with other public agencies, industry clusters and academia partners.

### WP3 is divided into six different actions, namely:

- **Action 1** – Alignment with previous national, European and international projects
- **Action 2** – Development of methodology for regional profiling of SWOT and research capability
- **Action 3** – Regional and Atlantic Area Industry needs in Blue economy
- **Action 4** – Capitalization of private sector Blue economy stakeholders
- **Action 5** – Capitalization of the Academia Innovation Enhancer
- **Action 6** – Public Policy Recommendations and Funding Mechanism Improvements

Project outputs will be applied to other regions, EU Member States and reach policy makers beyond the partnership, using the network of contacts of this partnership that involves the triple helix players in all 5 AA countries.

The Maritime Strategy Background Report, the Joint Action Plan to enhance the Blue Economy in AA and the white paper with recommendations for regional and transnational public innovation policy, innovation metrics and blue economy future trends, relevant for all triple helix players, will be disseminated in the final event of the project, in Brussels, close to the EU policy-makers.

### 1.3 Deliverable framework

Knowledge Transfer (KT) encompass multiple activities to support mutually beneficial collaborations between Academia, Industry and the Government. It aims to transfer intellectual property, expertise and skills between academia and the non-academic community. According to the European

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Commission report on Open Innovation and Knowledge Transfer (KT) in EU<sup>1</sup>, evidence suggests there is still some gaps on KT due to significant differences between European countries, reflected also in the professionalism of their Knowledge Transfer Office (KTO) functions.

Marine and maritime research plays an important role for understanding the seas and creating technology and management techniques for their sustainable use. However, the results are not always successfully transferred or fully exploited. It is important to improve and create new methodologies for knowledge capture and transfer focusing on creating impact from existing research and transforming how the marine and maritime community interacted and collaborated for mutual benefit.

Action 1 under WP3 envisions the research and selection of previous projects implemented at national, European and international level, focused on the promotion of knowledge and technology transfer from academia to market. Due to the high number of projects implemented, the selection should be focused on projects developed within the Blue Economy and will be conducted by evaluating, through desk research and participation of relevant conferences, aiming to:

- avoiding duplication of effort,
- identifying particular gap areas,
- academia expertise and strategy objectives and,
- supporting the identification of stakeholder groups to target for attendance at the *bootcamps*.

This report is intended to be a compilation of the information collected by the consortium partners detailing how relevant previous national projects have implemented actions applicable to the Atlantic Area, Blue Growth and RIS3 maritime priorities, building on top of what has been identified and implemented. This will be a starting point for identification of industry and AA regions needs in Blue economy. The information collected represent an education program on regional, national and international maritime strategies. The report results were also presented at the international bootcamp to establish a baseline for discussion between the triple innovation helix participants at the national and transnational bootcamps, organized in WP4.

For the identification and selection of the presented projects, several elements were considered as criteria, which the consortium believes can be useful to replicate or implement at EMPORIA4KT. First

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<sup>1</sup> Boosting Open Innovation and Knowledge Transfer in the European Union :  
[https://ec.europa.eu/research/innovation-union/pdf/b1\\_studies-b5\\_web-publication\\_mainreport-kt\\_oi.pdf](https://ec.europa.eu/research/innovation-union/pdf/b1_studies-b5_web-publication_mainreport-kt_oi.pdf)

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of all, it was important to focus on knowledge and technology transfer projects that were related to Blue Economy. This will enable a more fined analysis of the different practices that have been put in place in Blue Economy related projects, and thus, not consider other generic practices from projects related to other sectors of activity. Secondly, the projects identified also follow a broader criteria which is relevance. It is important that the projects presented have similarities with EMPORIA4KT and that the best practices of these projects are interesting to potentially be implanted. Last but not least, the projects selected are mainly projects implemented under national programs with national funding. In some cases and countries, some projects that were selected include a wider scope of European programs and funding and geography diversification in terms of its consortium size and nationality. This happens when there is a limited number of national projects that the consortium believes fit into the aforementioned criteria.

It is relevant to note that factors such as duration and budget were not considered as relevant for the selection of the projects, since it was understood that these elements should not be binding and limitative to best practices.

## 2. Country report – France

### 2.1 Knowledge and Technology Transfer background

France has excellent fundamental research, but struggle to transfer its research results into industrial applications: while France ranks 6th in the world for research publications, it only ranks 12th in the world for the number of international patents published per inhabitant<sup>2</sup>. France has many research infrastructures (universities, research centre, etc.) and good researchers, however the culture of knowledge transfer and the promotion of research results in the business world is not really anchored in the French academic culture. However, many actions and policies have been undertaken to enhance knowledge transfer in the recent years. Amongst the different tools that exists to transfer knowledge from public research to businesses there are:

Traditional methods that enable knowledge transfer in France:

- **The Collaborative projects of research:** That enables a public laboratory and a private laboratory to work on a common project of research. This is aimed at providing new products, methods, processes that could be used by businesses on the market. In this scheme, costs, human and equipment resources are shared between the different laboratories. This is mainly used for pre-competitive research.
- The “**Convention CIFFRE**” that promote the development of public-private partnership research to place Ph.D. students in employment conditions. The CIFFRE conventions associate, for a period of 3 years, 3 partners from the private, public and research sector around a research project which will lead to a Ph.D. thesis.
- **Applied research projects** that bring together research centres and businesses: These projects are set up to meet the needs of businesses. These projects are aimed to develop technologies which can be used directly by businesses.
- **Training** provided by researchers or research centre to businesses about last research discoveries.
- **Valorisation** through the training of the students of universities or research centres.

Since 2010, the French government has launched several initiatives to enhance knowledge transfer:

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<sup>2</sup> Figures for 2012 : <https://www.enseignementsup-recherche.gouv.fr/cid51354/valorisation-de-la-recherche.html>



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“Le programme Investissement d’avenir” (Investment for future) launched in 2010 created several organisations to enhance knowledge transfer such as:

- The “SATT” that are public organisations aimed at accelerating the process of technology transfer from publically funded research toward industry. To do so, SATTs patent applications, creates start-up, transfer technologies from research to industry...
- “Institut de recherche technologique”: “The technological research institute” are a grouping of public and private laboratories devoted to a technological field of the future, for which France aims for a place in the world leader pack. It gathers, in a limited geographical perimeter, training activities, research and innovation.
- The “Carnot Institutes” that is a label that was created to develop partnership research, after the selection of research structures recognized for their ability to collaborate effectively with companies.


Other activities have been launched like “Disrupt campus” or “The deepTech tour” that are aimed to enhance knowledge transfer in French universities. Several public or private organization have been created to enhance knowledge transfer and improve links between businesses and research centres such as the “C.U.R.I.E network”, l’INSERM Transfer, CNRS Innovation.

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### 2.2 National projects focused on the promotion of knowledge and technology transfer within the Blue Economy

<b>Title</b>	Itis	<b>Logo</b>	
<b>Details</b>			
<b>Organisations (consortium)</b>	iXTrawl/Sodena (leader), IPSIS, Le Drezen, Resiconcept, Ifremer, IMP, IMT Atlantique Bretagne-Pays de la Loire, IRD Brest, Comité Régional des Pêches Maritimes et des élevages Marins de Bretagne		
<b>Duration</b>	started in 2006	<b>Financial support</b>	Fonds Unique Interministériel (2 065 000€)
<b>Description</b>	Although the main aim of this project concerns technological development, it contributed to the increase of knowledge transfer in the fishery sector. First the project aims at developing acoustic tools to detect and identify biological resources and foster a sustainable fishery system. In addition, the project has developed new fishing materials such as adapted fish cages to select high quality catches and avoid by-catches. During the project, knowledge transfer activities have been done.		
<b>Results</b>	<ul style="list-style-type: none"> <li>• international scientific publications</li> <li>• 8 scientific communication at international congresses</li> <li>• Knowledge transfer through the launch of other technological projects including private firms using these new fishery systems (Prespo and Orcasav)</li> </ul>		
<b>Website / other contacts</b>	Not available		


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<b>Title</b>	Idealg	<b>Logo</b>	
<b>Details</b>			
<b>Organisations (consortium)</b>	Université de Bretagne Loire, Station biologique de Roscoff (leader), CNRS, Université de Nantes, CEVA, Ecole Nationale Supérieure de Chimie de Rennes, Université de Bretagne Sud, Agrocampus Ouest, AMURE UBO, LBE – INRA, Alero, C-WEED, Bezhin Rosko, Aleor, France Haliotis		
<b>Duration</b>	2011 -2021	<b>Financial support</b>	10 000 000 €, Investissements d’avenir
<b>Description</b>	The IDEALG project aims to consolidate and increase the knowledge needed to develop the seaweed sector in France. It will develop biotechnological tools to study the diversity of micro-organisms in sea weeds and explore their potential uses. Besides this research objective, it will also support the development of algaculture. Finally, the project will accelerate knowledge transfer through the setting up of collaborative platforms gathering industries and academic actors to promote the development of R&D projects in SMEs and the creation of spin-offs and start-ups.		
<b>Results</b>	<ul style="list-style-type: none"> <li>• 85 scientific publications</li> <li>• Development of R&amp;D projects at company scales: Algolife (4 companies and one laboratory); RIV-AGE 2.0 (1 company); Oligomar-Skin (1 company); Other collaborative projects will be launched supported by Idealg’s consortium</li> </ul>		
<b>Website / other contacts</b>	Not available		

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<b>Title</b>	Cluster Algues Pays de Brest	<b>Logo</b>	
<b>Details</b>			
<b>Organisations (consortium)</b>	Pôle métropolitain du Pays de Brest (leader), Technopole Brest Iroise, Campus Mondiale de la Mer, CCI métropolitaine Bretagne Ouest		
<b>Duration</b>	From 2018 onwards	<b>Financial support</b>	European Maritime and Fisheries Fund, Région Bretagne
<b>Description</b>	The project aims at supporting the development of the seaweed sector through economic support and the strengthening of knowledge transfer capacities. To reach its goals, the project will train researchers in the seaweed sector to transfer knowledge, organise the supply of provisions and develop cooperation tools. One of the expected results is the creation of a strong cluster composed of companies specialised in the seaweed industry.		
<b>Results</b>	Project has been recently launched		
<b>Website / other contacts</b>	<a href="https://www.pays-de-brest.fr/economie-et-emploi/actualites/348-un-cluster-pour-developper-la-filiere-algues">https://www.pays-de-brest.fr/economie-et-emploi/actualites/348-un-cluster-pour-developper-la-filiere-algues</a>		


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<b>Title</b>	Induscol	<b>Logo</b>	
<b>Details</b>			
<b>Organisations (consortium)</b>	Naval Group (leader), France Energies Marines, Université Bretagne Sud, Université de Nantes		
<b>Duration</b>	From 2018 onwards	<b>Financial support</b>	Agence Nationale de la Recherche (910 000€)
<b>Description</b>	The project aims at establishing conception rules and methodologies to install marine renewable energies systems in extreme environments. Besides technological development plans, the project also aims at transferring its technologies to industries. In order to do so, specific methodologies and rules will be produced to help companies to innovate and install these marine renewable energy systems. Actions on knowledge transfer will be done in the last stage of the project.		
<b>Results</b>	Project has been recently launched		
<b>Website / other contacts</b>	<a href="https://www.pole-mer-bretagne-atlantique.com/fr/component/projects/project/2467">https://www.pole-mer-bretagne-atlantique.com/fr/component/projects/project/2467</a>		

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<b>Title</b>	Co-Sciences	<b>Logo</b>	Not available
<b>Details</b>			
<b>Organisations (consortium)</b>	Université de Bretagne Occidentale (leader), IUEM, Laboratoire Sciences de l'Environnement Marin, Université Rennes 2, Laboratoire PREFICS		
<b>Duration</b>	January 2012 – January 2015	<b>Financial support</b>	Agence Nationale de la Recherche (1 556 000 €)
<b>Description</b>	The main objective of the project was to give indications from the civil society and companies to the research sectors to support researches in the environmental sector. The relationship between companies and researchers in Western Brittany were studied by the consortium to find out how to improve knowledge transfer. Debates and discussions were organised between companies and academic researchers to analyse their own relationship. The project focused on Western Brittany where environmental questions are linked with the ocean.		
<b>Results</b>	<ul style="list-style-type: none"> <li>• Strengthen cooperation between researchers and companies in the environmental sector in western Brittany</li> <li>• Development of collaboration methodologies</li> <li>• Analysis of innovations resulting from knowledge transfer from academia to industry</li> </ul>		
<b>Website / other contacts</b>	<a href="https://www.pole-mer-bretagne-atlantique.com/fr/environnement-et-amenagement-du-littoral/project/co-sciences">https://www.pole-mer-bretagne-atlantique.com/fr/environnement-et-amenagement-du-littoral/project/co-sciences</a>		

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<b>Title</b>	Dispositif Captiven	<b>Logo</b>	
<b>Details</b>			
<b>Organisations (consortium)</b>	Instituts Carnot BRGM, Ifremer EDROM, Irstea		
<b>Duration</b>	2011 – 2016	<b>Financial support</b>	Investissement d'avenir (6 300 000 €)
<b>Description</b>	<p>The project aimed at supporting cooperation between SMEs and intermediary companies and researchers in three areas: maritime and terrestrial undergrounds, soils and natural spaces, underground and superficial waters, coasts and marine waters. There was a double objective which was to strengthen companies' competitiveness through knowledge transfer and to enable researchers to transfer their knowledge toward the private sector. The objective could be reached through licence transfers, products co-development, and registration of patents or creations of companies. Finally, the project contributed in the setting up of tools facilitating cooperation between researchers and entrepreneurs.</p>		
<b>Project Results</b>	Creation and support of more than 50 projects gathering companies and academic actors.		
<b>Website / other contacts</b>	<a href="http://www.captiven.fr/">http://www.captiven.fr/</a>		

### 3. Country report – Ireland

#### 3.1 Knowledge and Technology Transfer background

Knowledge Transfer Ireland (KTI) is the national office that helps business to benefit from access to Irish expertise and technology by making it simple to connect and engage with the research base in Ireland. In Ireland, and worldwide, the businesses with innovative products, services and processes set sector standards, grow sales and stay ahead of the competition. Ireland's pro-business knowledge transfer eco-system is proven. The Irish Government's €52M investment in technology transfer (2007-2016) focuses on providing a streamlined, predictable process that delivers effective commercialisation of research (further details below, TTSI phase 1 & 2).

Knowledge Transfer Ireland takes a national perspective on the knowledge transfer (KT) system in Ireland. They enable business to leverage the commercial potential of Irish research and innovation through connecting businesses with cutting-edge research, expertise and opportunities. Making it easier to find technology, IP and expertise in Ireland from our HEIs and State research organisations and to find the right people to talk to.


However, in the Blue Economy there is an urgent need for sharing existing knowledge and infrastructure in ocean sciences and technologies developments. There is usually a great challenge for industry to ensure a balance between cost effectiveness, time management and trust. Lack of access to finance and a shortage of suitably skilled workers have been identified as blocking growth in nearly all economic sectors but is especially relevant in the blue economy in Ireland.

There is not yet enough collaboration between the public and private sectors on innovation and that the inability to transfer research results into goods and services as well as a growing skills gap are affecting knowledge intensive sectors. This is evident from the seaweed sector alone where there is over €50m spent on seaweed research yet €0 has been turned into a commercial product.



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### 3.2 National projects focused on the promotion of knowledge and technology transfer within the Blue Economy

<b>Title</b>	Commercialisation from State funded investment in research boosted through Technology Transfer Strengthening Initiative (TTSI) Phase 1	<b>Logo</b>	
<b>Details</b>			
<b>Organisations (consortium)</b>	Department of Enterprise, Trade and Employment – Mandated to Enterprise Ireland		
<b>Duration</b>	2007 - 2012	<b>Financial support</b>	circa. €30 Million
<b>Description</b>	<p>In 2006 the State recognised a need to build capacity and capability in technology transfer. The then Department of Enterprise, Trade and Employment mandated Enterprise Ireland to deliver this and the Technology Transfer Strengthening Initiative (TTSI) was set up in 2007, leveraging the State investment through the initial TTSI1 programme (2007-2012). The aim was to develop a broader capability that would respond quickly, flexibly and consistently to the needs of Irish industry thus increasing collaboration with industry, and to enhance the culture of commercialisation amongst researchers in the Irish HEI sector.</p> <p>The objective of the initial TTSI1 was to develop a professional technology transfer system across Ireland's public research institutions. Prior to the programme there was little or no such capability available within Ireland's HEIs.</p> <p>Between 2007 and 2012, Enterprise Ireland committed almost €30m in funding to the TTSI1 Programme to provide direct support to eleven HEIs for</p>		

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	<p>Technology Transfer Office (TTO) salary and operational costs (including patent support). Enterprise Ireland directly supported 11 HEI's in Ireland.</p> <p>The difficulties faced by this program are relatively hard to quantify. Businesses and researchers alike were generally very positive about their experiences working with a TTO. In the study, 90% of the businesses surveyed rated their experience with the TTO as either 'good' or 'very good' for approachability, ease of engagement and technical expertise. Researchers who were experienced in working with the TTO saw a continued improvement in service and felt the breadth and professionalism of the in-house support was a great support.</p>
<b>Results</b>	<p>By the end of the programme licensing and spinout formation had increased significantly. By the end of 2012, the average number of LOAs executed each year was up over seven-fold (compared with the baseline year of 2005) at 85. The average number of spinout companies created each year had risen over the same period by nearly 450% to 22.</p>
<b>Website / other contacts</b>	Not available


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<b>Title</b>	Commercialisation from State funded investment in research boosted through Technology Transfer Strengthening Initiative (TTSI) Phase 2	<b>Logo</b>	
<b>Details</b>			
<b>Organisations (consortium)</b>	Dublin City University, Dundalk Institute of Technology, Dublin Institute of Technology, Institute of Technology Tallaght, Institute of Technology Blanchardstown, Institute of Art, Design and Technology, National College of Ireland, National University of Ireland Galway, Galway-Mayo Institute of Technology, Institute of Technology Sligo, Letterkenny Institute of Technology, Maynooth University, Waterford Institute of Technology, Athlone Institute of Technology, Institute of Technology Carlow, University College Cork, Cork Institute of Technology, TEAGASC, University of Limerick, Limerick Institute of Technology, Institute of Technology Tralee, University College Dublin, National College of Art and Design, Trinity College Dublin, Royal College of Surgeons in Ireland		
<b>Duration</b>	2013-2016	<b>Financial support</b>	€22.6 Million
<b>Description</b>	<p>The aim of the TTSI2 programme was to leverage the investment through the TTSI1 programme that created, from a baseline of little activity, the capacity and capability to support commercialisation within several HEIs. The second phase of the programme sought to expand performance within the sector and to scale technology transfer expertise across the entire HEI system:</p> <ul style="list-style-type: none"> <li>• Access new knowledge and expertise to drive innovation through research collaboration, contracted services and consultancy.</li> <li>• Identify and license new technologies and intellectual property (IP) relevant to their business.</li> <li>• Make use of state-of-the-art facilities and equipment.</li> </ul>		

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	<ul style="list-style-type: none"> <li>Follow-on from the development, outputs, resources and network of clients (HEI, Government &amp; Industry) of the TTSI1 project, which was mandated to Enterprise Ireland by the Irish Government to be implemented and managed over the lifecycle of the TTSI2, 2013-2016.</li> </ul> <p>TTSI1 put people in place to start a process of technology transfer and TTSI2 has built on TTSI1 very successfully. The implementation, day to day management of TTSI2 was overseen by the Knowledge Transfer Ireland. Ireland's institutes are now working together in knowledge transfer consortia to share and scale expertise.</p>
<b>Results</b>	<p>Overall, licences, options and assignments have exceeded the programme target, achieving 123% of the total target for 2013-2016. Over the four years, 686 LOAs were signed against a target of 557. While the total number of licences, options and assignments dropped by 11% in 2016 from 2015 it remained ahead of the 2014 and 2013 figures. Through the Annual Knowledge Transfer Survey (AKTS), published by KTI, the number of new products and services launched on the market by companies as a result of a licence or assignment has been captured since 2013. The number of new spinouts per annum has decreased from 34 in 2013 to 26 in 2016 achieving on average 88% of the overall programme target.</p> <p>Patent filings achieved 81% of the programme target with a consistent growth level achieved year on year.</p>
<b>Website / other contacts</b>	<p><a href="https://www.knowledgetransferireland.com/Reports-Publications/A-Review-of-the-Performance-of-the-Irish-Technology-Transfer-System-2013-20161.pdf">https://www.knowledgetransferireland.com/Reports-Publications/A-Review-of-the-Performance-of-the-Irish-Technology-Transfer-System-2013-20161.pdf</a></p>


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<b>Title</b>	KTForce (Knowledge Transfer joint forces for efficient innovation policies) (Completed)	<b>Logo</b>	
<b>Details</b>			
<b>Organisations (consortium)</b>	Waterford Institute of Technology is one of 11 partners in the KTFORCE project which launched in 2012 and involves organisations from 6 European regions.		
<b>Duration</b>	Start date: 2012-01-01 End date: 2014-06-30	<b>Financial support</b>	Total budget/expenditure: EUR €1,428 222.00  European Union funding: EUR €1,134 826.58
<b>Description</b>	<p>KTFORCE, a 30-month project, aimed at the improvement of innovation policies focusing on Knowledge Transfer between Academia and Industry, taking into consideration the experience at operational level of different players in the Academia, namely Knowledge Transfer Offices. In practical terms, KTForce proposed to:</p> <ul style="list-style-type: none"> <li>• To map existing policies and practices for KT;</li> <li>• To define the actual needs of the regions by creating present “Where are we?” and future “Where do we want to be?” scenarios;</li> <li>• To benchmark and to measure the impact innovation policies have on KT practices and the type of policies that would need to be developed in order to meet the challenges and needs of the regions;</li> <li>• To define a roadmap and an implementation plan for future policy design and practices development;</li> </ul>		

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	<p>The project's aim was the improvement of local and regional innovation policies focusing on KT, as well as the transfer of best practices, both at operational and political levels. Completed by the development of an implementation plan of selected policies in each partner region and presented via an interactive database web tool, the results planned by KTFORCE will have a strong impact on the definition of innovation policies focusing on Knowledge Transfer in Europe.</p> <p>KT was recognized by the EU as a key tool for boosting innovation and competitiveness in Europe. In line with this strategy, KTFORCE aimed to benchmark both innovation policies and Knowledge Transfer practices in the partner regions, so that a set of strategic recommendations for future design of innovation policies and implementation of KT practices can be applied, towards more dynamic and competitive European regions. Blue Growth is the long-term strategy to support sustainable growth in the marine and maritime sectors as a whole. Seas and oceans are drivers for the European economy and have great potential for innovation and growth. It is the maritime contribution to achieving the goals of the Europe 2020 strategy for smart, sustainable and inclusive growth. However, still largely unexploited by businesses and this project helped by developed an interactive database webtool for sharing the Knowledge Transfer best practices.</p>
<b>Results</b>	<p>Implementation plans (one per partner region). KTFORCE also developed an interactive database webtool for sharing the Knowledge Transfer best practices identified along the project's lifetime, and in which, any European interested party could insert its own best practice. However, the Website isn't great.</p>
<b>Website / other contacts</b>	<p><a href="https://repository.wit.ie/3047/1/Booklet%20KTFORCE%20-%20Regional%20Implementation%20Plan%20v1E%2016-09%20(pages).pdf">https://repository.wit.ie/3047/1/Booklet%20KTFORCE%20-%20Regional%20Implementation%20Plan%20v1E%2016-09%20(pages).pdf</a></p>

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<b>Title</b>	Funding Atlantic Network for Blue Economy Technology Transfer	<b>Logo</b>	
<b>Details</b>			
<b>Organisations (consortium)</b>	University of Santiago de Compostela, Greater Manchester Chamber of Commerce, University of Exeter, Institute of Technology Tralee, DCU Ryan Academy for Entrepreneurs, Fundo Regional para a Ciência e Tecnologia, Orange Bird, Colegio de Ingenieros Navales y Marinos(COIN), ATLANPOLE, Vertigo Lab, Local Enterprise Office Kerry, Cornwall Chamber of Commerce, Université de La Rochelle		
<b>Duration</b>	01/01/2019 – 31/12/2021	<b>Financial support</b>	TOTAL INVESTMENT €2,593.636.36  European Regional Development Fund  €1,945.227.27
<b>Description</b>	FANBEST is aimed to foster the technology transfer to SMEs in blue biotechnology and exploitation of marine resources by creating a network of public and private entities focused on the fund raising that make possible the start and scale-up phase. Funds such venture, business angels, participatory loan or crowdfunding will be offered by tools and services, so that the technologies and innovations “made in Atlantic regions” can reach the market turned into successful business projects. The objectives were: <ul style="list-style-type: none"> <li>• Improving the information about the financing needs and the potential of technology transfer, with special attention to projects led by women.</li> <li>• Taking advantage of the knowledge and opportunities that represent Business Angels and other not banking financing agents like</li> </ul>		

**Deliverable Task 1 - Alignment with previous national, European and international projects**

	<p>crowdfunding platforms for SMEs of the maritime economy that do not have the necessary size to access to R+D projects investment.</p> <ul style="list-style-type: none"> <li>• Improvement of skills and abilities of the support services for entrepreneurs and spin-offs so that they can facilitate the fund raising for innovative projects and positioning the universities as agents that become agents connected with the necessary funds and financing support for innovation.</li> <li>• Exploration and exploitation of university R+D in all their potential. This network will facilitate and coach that the research outputs reach the market in the form of new commercial products or innovative services, provided by SMEs located in Atlantic regions.</li> <li>• Increasing the funds and financial instruments available for innovation and scaling up in SMEs linked with marine resources sustainable exploitation.</li> </ul>
<b>Results</b>	<p>Stock Market - A website for the transfer of innovations and technologies of the Blue Economy in the Atlantic Area. The purpose of this portal is to know about technologies and innovations close to market originated from marine and maritime resources and with a great potential for industrial use. Also with a directory of investors potentially interested in investing on these technologies and innovations.</p> <p>In short, it is a meeting point between R+D+ I entities, technology centres, companies and start-ups related to the Blue Economy and investment entities potentially interested in making the BE an Atlantic Area competitiveness pole. More results still expected.</p>
<b>Website / other contacts</b>	<p><a href="http://stockmarket.fanbest.eu/blue-economy/companies/">http://stockmarket.fanbest.eu/blue-economy/companies/</a></p>



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<b>Title</b>	The Operational Programme (OP) supported by the European Maritime and Fisheries Fund (EMFF) in Ireland	<b>Logo</b>	
<b>Details</b>			
<b>Organisations (consortium)</b>	Managing Authority - Department of Agriculture, Food and the Marine - Marine Agencies & Programmes Division		
<b>Duration</b>	ongoing	<b>Financial support</b>	<p>Total OP budget: € 239 265 133</p> <p>Total EU contribution: € 147 601 979</p> <p>Total national contribution: € 91 663 154</p>
<b>Description</b>	<p>The Operational Programme (OP) supported by the European Maritime and Fisheries Fund (EMFF) in Ireland aims at achieving key national development priorities along with the EU's "Europe 2020" objectives. The OP will support the general reform of the EU's Common Fisheries Policy (CFP) and the development of its Integrated Maritime Policy (IMP) in Ireland.</p> <p>The OP strategy is designed around the Irish national priorities in the agri-food sector: 'Act Smart' by encouraging knowledge and innovation, 'Think Green' through a responsible and sustainable use of resources, 'Achieve Growth' in order to maintain and create jobs.</p> <p>It aims to improve interoperability between national administrative services, so as to reduce the administrative burden for potential beneficiaries. The managing authority and the intermediate bodies are carrying out activities to improve the efficiency of administration of the programme. To this effect, the following measures will be used: implementing a new online application</p>		

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	and tracking system to assist potential applicants; setting up a dedicated website and IT system to facilitate effective monitoring; developing new IT systems to spatially map licensed aquaculture sites, and possibly potential areas available for aquaculture; introducing simplified costs as part of the verification of expenditure; and providing training to administrative bodies. Collaboration with other organisations included Marine agencies, EC Fisheries, EU Maritime & Fisheries, etc.
<b>Results</b>	<ul style="list-style-type: none"> <li>• Productive developments in aquaculture: development of new farming oyster site</li> <li>• Value added seafood processing</li> <li>• Conserving lobster stock through v-notching</li> </ul>
<b>Website / other contacts</b>	Not available

## 4. Country report – Portugal

### 4.1 Knowledge and Technology Transfer background

Knowledge valorisation and technology transfer system in Portugal has been under development over the years. Portugal has been trying to boost knowledge transfer. In this sense, one of the strategic priorities of the Portugal 2020 Partnership Agreement is the need to qualify Research and Innovation infrastructures such as technological centres, technology transfer centres, new technology institutes, science and technology parks, as well as incubators of technology-based companies, with the aim of promoting close collaboration and oriented to the real needs of Portuguese companies. Thus, the investment priorities of Portugal 2020 aim to support investment projects that allow the creation of value in the Scientific and Technological System and, at the same time, reinforce the channels of knowledge transfer for companies, with special emphasis to SMEs.

Technology Transfer Offices (TTOs) are still recent in Portugal and support a wide range of Portuguese industry sectors. According to ANI 62% of TTOs have a relatively narrow sector focus (3 sectors or fewer). A recent report from ANI (Agência Nacional de Inovação) has analysed the existing Technology Transfer Offices spread across the country across the public and private sectors, in higher education institutions, R&D centres, knowledge and technology clusters and companies. From the data collected, ANI concluded that Portugal has more TTOs than any comparable country, relatively young, who are well educated but have less than 3 years' experience. These TTOs engage in research contracts with companies, in a relative low number. However, this low number may be directly related to the fact that R&D institutions may establish these types of contracts without necessarily involving their TTO. In terms of spin-offs, Portugal generates a relatively number of small spin-off companies, which genesis is supported by well-funded entrepreneurship programmes. These spin-offs are independent of institutions and TTOs (i.e. institutions do not have equity in the companies).


Some of the Central government entrepreneurship programmes include:

- ANI - National Innovation Agency - technological and business innovation support  
<https://www.ani.pt/en/>
- INPI GAPI – Industrial Property Support Network; Innovation and Entrepreneurship Support Network - <https://www.ipn.pt/projecto/37>
- Institutional programmes set up by Universities to support innovation and entrepreneurship

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- Associations of companies to foster networking and innovation - for example Blue BioAlliance, dedicated to the Blue Biotechnology sector of the Blue Economy
- Observatory of the sea report - DGPM
- Financing mechanisms - PT2020, MAR 2020


#### 4.2 National projects focused on the promotion of knowledge and technology transfer within the Blue Economy

<b>Title</b>	ValorMar	<b>Logo</b>	
<b>Details</b>			
<b>Organisations (consortium)</b>	SONAE, Fórum Oceano, CIIMAR, A Poveira, Algaplus, A2O, Bivalvia, CCMAR, CMP, CPC, CVR, Docapesca, ESB-UCP, Foodintech, Fourmag, Hidromod, iBET, INEGI, IPL, IPMA, IPVC-ESTG, Necton, Piscicultura Vale do Lama, Riasearch, Sorgal, SparoS, SPI, Universidade de Aveiro, Universidade do Minho, Universidade do Porto		
<b>Duration</b>	01-10-2017 to 30-09-2020 (3 years)	<b>Financial support</b>	€ 8.043.392,62 € – (Portugal2020, ERDF - 5.475.707,39 €)
<b>Description</b>	The ValorMar project will develop 4 innovative technological solutions that enhance the valorisation and efficient use of marine resources through the integration of value chains, in a logic of circular economy, articulating: aquaculture, food industry, biomedics, pharmaceuticals and cosmetics. This project's vision emerges from the commitment of the members of this consortium, aligned with the importance of the economy of the sea in the value chains represented in the project and in face of the existing challenges. This vision focuses on the consumer markets and on the skills and efforts surrounding the challenges for the valorisation of marine resources, and		

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	<p>aggregates entities of the National Scientific System with relevant companies along the value chains. It is intended to promote technological development and its validation through pilot demonstrations and to develop collectively and cooperatively specific skills in companies, strengthening this cluster with a high capacity for growth.</p> <p>Valorisation of marine resources by researching, developing and demonstrating new products and improving production processes through the development of new technologies. The ValorMar project proposes innovative solutions for the creation of new healthy food products, using sustainable and efficient technologies.</p>
<b>Results</b>	<ul style="list-style-type: none"> <li>• New sea products, technologies and processes for the industry and the market</li> <li>• Development and optimisation of new products, technologies and processes for aquaculture</li> <li>• Marine Biorefineries</li> <li>• Integration of the fish value chain</li> </ul>
<b>Website / other contacts</b>	<p><a href="http://valormar.pt/">http://valormar.pt/</a></p>

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<b>Title</b>	ALGAVALOR – MicroALGAs: produção integrada e VALORização da biomassa e das suas diversas aplicações		<b>Logo</b>	
<b>Details</b>				
<b>Organisations (consortium)</b>	CIIMAR - Centro Interdisciplinar de Investigação Marinha e Ambiental; UA - Universidade de Aveiro; UM - Universidade do Minho; UCP - Universidade Católica Portuguesa; UP - Universidade do Porto; ISA - Instituto Superior de Agronomia da Universidade de Lisboa; UALG - Universidade do Algarve; LNEG - Laboratório Nacional De Energia E Geologia I.P.; IPL – Instituto Politécnico de Leiria; NECTON - Companhia Portuguesa de Culturas Marinhas S.A.; VALORGADO - Agricultura e Pecuária, Lda.; LIPOR - Serviço Intermunicipalizado de Gestão de Resíduos do Grande Porto; CASTELBEL - Artigos de Beleza, S.A.; EM - Ernesto Morgado, S.A.; EFP – Empresa Figueirense de Pesca Lda.; ALLMICROALGAE - Allmicroalgae Natural Products, S.A.; INIAV – Instituto Nacional de Investigação Agrária E Veterinária, I.P.; VAISA - Agricultura Intensiva, S.A.; NARCISO - Narciso Dias & Filhos Lda.			
<b>Duration</b>	4 years - 01.01.2018/ 31.12.2021	<b>Financial support</b>	Portugal2020 <ul style="list-style-type: none"><li>Total eligible investment: €10.481.791,21</li><li>European Union financial support – FEDER (ERDF) €6.639.595,65</li></ul>	
<b>Description</b>	<p>The ALGAVALOR project has as its general objective the integrated production of microalgae and the valorisation of their biomass and extracts in different applications, with the development and launch of new products in the markets of human food, animal nutrition, cosmetics and biofertilizers.</p> <p>The ALGAVALOR project will develop R&amp;D around the applications of microalgae (fresh paste, powder and / or extracts) generating new products rich in biomass and / or microalgae extracts, having as key end-users’ partners in target markets:</p>			

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	human and animal food and cosmetics. New processes will also be optimised and developed, including new generation open reactors and low cost “biological” means of cultivation developed.
<b>Results</b>	<p>To this end, new production processes are proposed, with increased sustainability. This general objective can be broken down into a set of specific objectives to be achieved through different subprojects (SP):</p> <ul style="list-style-type: none"> <li>• Recovery of microalgae for human consumption;</li> <li>• Valorisation of microalgae for animal feed;</li> <li>• Enhancement of microalgae for natural cosmetics;</li> <li>• Development of new processes, including “new generation” open reactors and optimization of existing processes to achieve scale and efficiency gains;</li> <li>• Development of agricultural biofertilizers from microalgae and use of agro-industrial waste as inputs for the production of “biological microalgae” in a circular economy logic.</li> </ul>
<b>Website / other contacts</b>	<a href="https://www.lneg.pt/download/14831/Ficha%20de%20Projeto%20ALGAVALOR.PDF">https://www.lneg.pt/download/14831/Ficha%20de%20Projeto%20ALGAVALOR.PDF</a>

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<b>Title</b>	Connecting minds, creating the future for the oceans	<b>Logo</b>	Not available
<b>Details</b>			
<b>Organisations (consortium)</b>	ASPEA - Associação Portuguesa De Educação Ambiental; EMEPC – Estrutura de Missão para a Extensão da Plataforma Continental		
<b>Duration</b>	Completed (more information not available)	<b>Financial support</b>	Iceland Liechtenstein Norway EEA Grants Final project cost: €17,581 EEA Grants contribution: € 14,134
<b>Description</b>	"Connecting minds, creating the future for the oceans" is a project of environmental education and education and science communication that brings the principles of literacy of oceans and the methodology of teaching and learning Secondary Sea Kit to Portuguese schools and dozens of countries network of Caretakers of the Environment Foundation International (CEI). The teaching-learning methodology, tested during school year 2013/2014, shall be circulated to secondary school community in Portugal and CEI delegations and affiliates. This methodology and resources, will be translated into English and will be available on the project site, as a link to the site of the Sea Kit, to be adapted in affiliate countries and CEI delegations, contributing to its internationalization. The project will culminate with an international conference (held in Portugal in summer 2015) and will also include a public presentation of teasers selected in environmental film festival CineEco Seia, in October 2015.		
<b>Results</b>	<ul style="list-style-type: none"> <li>International Conference of the Caretakers of the Environment International Foundation - CEI2015 "Connecting minds, creating the</li> </ul>		



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	<p>future for the oceans", attended by about 300 students and teachers of secondary education in 22 countries.</p> <ul style="list-style-type: none"> <li>• application of the methodology proposed by Kit do Mar, during the school year, to 100 students from secondary schools in the CIS network.</li> <li>• Finally, 30 posters of the school projects were created, 30 teasers on the theme of the project and 30 projects were presented during the International Conference CE2015 "Connecting minds, creating the future for the oceans".</li> <li>• 10 of the teasers were presented at the International Environmental Film Festival - CineEco de Seia, in October 2015.</li> </ul>
<b>Website / other contacts</b>	<a href="http://aspea1.wixsite.com/futurefortheoceans">http://aspea1.wixsite.com/futurefortheoceans</a>


## Deliverable Task 1 - Alignment with previous national, European and international projects

<b>Title</b>	Sophia, Knowledge for Marine Environment Management	<b>Logo</b>	
<b>Details</b>			
<b>Organisations (consortium)</b>	DGRM – Direção Geral dos Recursos Marinhos; FCUL – Faculdade de Ciências da Universidade de Lisboa; Escola Superior de Comunicação Social		
<b>Duration</b>	completed	<b>Financial support</b>	<p>Iceland Liechtenstein Norway EEA Grants</p> <p>Final project cost: €276,819</p> <p>EEA Grants: € 222,549</p>
<b>Description</b>	<p>DGRM is responsible for the implementation of Marine Strategy Framework Directive (MSFD) and has identified several areas requiring consolidation of knowledge and qualified personnel for proper implementation of monitoring programs and measures. This project responds some of these needs, contributing to training and academic qualification in three areas: Deep Sea Ecology; Dynamics of food webs; GIS and satellite images of sea. The project is developed in partnership with FCUL (scientific and educational axis) and the ESCS (content production and web portal axis) and is structured in three areas: an international Workshop on deep sea ecology, seven thematic training modules and seven technical guidelines to support the training modules. It is intended that this project could be run twice during each cycle MSFD, updating existent knowledge and it can be included in the Program of Measures, strengthening of bilateral relations with Norway and with coastal states, will also be developed.</p>		

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<b>Results</b>	<ul style="list-style-type: none"> <li>• Design of short training courses and supporting materials covering 8 key topics of relevance to MSFD and to marine environment management in general.</li> <li>• online platform to facilitate open access to the information.</li> <li>• SOPHIA also engaged in promoting technical debates between specialists in marine environment from all the key topics covered by the project. For that, we operated a small multimedia studio, which resulted in the recording of unique videos and audio statements and debates, all published on the SOPHIA online platform.</li> </ul>
<b>Website / other contacts</b>	<a href="https://www.sophia-mar.pt/pt/sophia/">https://www.sophia-mar.pt/pt/sophia/</a>

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<b>Title</b>	Get to know the marine environment Portugal - BioMar PT	<b>Logo</b>	
<b>Details</b>			
<b>Organisations (consortium)</b>	IPMA – Instituto Português do Mar e da Atmosfera; CIIMAR – Centro Interdisciplinar de Investigação Marinha e Ambiental; EMEPC - Estrutura de Missão para a Extensão da Plataforma Continental		
<b>Duration</b>	completed	<b>Financial support</b>	Financing - EEA Grants (85%) Portugal Government (15%) Total cost: 276.749,00€
<b>Description</b>	The implementation of the MSFD implies that EC Member States are obliged to maintain or achieve Good Environmental Status (GES) of their marine waters. There is no doubt that a good assessment of the environmental status of the marine waters pass through the optimized multidisciplinary monitoring carried out by qualified personnel. The project includes training and education actions that contributes to the generation of qualified human resources in priority science and technology for the sustainable management of marine waters and to the maintenance of GES. Training activities will be directed at senior technicians, graduates and alumni, the public and private sectors, in priority areas that contributes to the implementation of the MSFD. The courses, will have theoretical and practical components, and will be also developed technical guidelines to support the MSFD.		
<b>Results</b>	BioMar PT was conceived to increase technical and scientific skills to ensure the implementation of the MSFD in Portuguese continental waters. Training and qualification courses were provided to increase competencies for: a) continuous multidisciplinary monitoring; b) acquisition of technical skills for		

## Deliverable Task 1 - Alignment with previous national, European and international projects

	<p>the application of standardized methodologies for sample processing; c) data processing and analysis; d) making results available in a simple, standardized and comprehensive manner. Main outputs:</p> <ul style="list-style-type: none"> <li>• Training courses with theoretical and practical sessions.</li> <li>• Technical guides about the course's subjects, made available on the project website.</li> <li>• Online courses through multimedia presentations.</li> <li>• Merchandising products and dissemination actions in order to promote the courses, thus attracting a high number of candidates.</li> <li>• Increase of knowledge about the MSFD.</li> <li>• Increase of technical and scientific knowledge for the MSFD implementation.</li> <li>• Increase of knowledge about non-indigenous species (descriptor 2 of the MSFD) in Portugal with findings of new ones during the practical sessions of the courses.</li> </ul>
<b>Website / other contacts</b>	<a href="http://biomarpt.ipma.pt/">http://biomarpt.ipma.pt/</a>

## 5. Country report – Spain

### 5.1 Knowledge and Technology Transfer background

In addition to the two classic missions of the University, Research and Teaching, in this 21<sup>st</sup> century there is a third: The Transfer of Knowledge. The Academy must exploit its intellectual, scientific and promote the transmission of its knowledge to the society if it is to fulfil its fundamental mandate: to contribute to the improvement of the well-being of all citizens. In the case of Spain, it is remarkable the fact that it ranks as the eleventh world power in scientific production, while at transference level, it just brings about 1% of total international patents.

Spanish universities are an essential part to the science and technology system in the country. The R&D expenditure of the institutions of higher education is one third of total expenditure and its scientific activity accounts for more than 80% of that of the whole of Spain. However, its performance in terms of contribution to the innovation has been modest. The COTEC Report 2019 (COTEC Foundation) on innovation in Spain points out the limited collaboration of the universities with companies and considers that it is one of the factors hindering the incorporation of innovation to Spanish production: "The public sector finances approximately 90 % of the investment in R&D in the higher education sector, evidence of limited public-private collaboration". Some data referring to indicators of knowledge transfer in Spain are:

- In 2017 and for the first time in seven years, university R&D funding by companies has recovered (5.4%) and reached 198.1 million euros.
- Collection of resources as a result of collaboration between universities and companies in 2017 reached 570million €, 4.75% more than in 2016.
- With regard to the application of patents participated by universities through national channels in the OEPM (Trade Mark and Patents Spanish Office), in 2018 it continues the downward trend to 327 patents, a decrease of almost 25% compared to 2017.
- 93 spin-offs were created in the Spanish universities, the lowest figure observed in the period 2007-2017.

Improving programmes and public policies in the Spanish science and technology system has led to positive effects on the country's social and economic dynamisation processes. However, the fact that intensive scientific production, based on "excellent" indicators, coexists with a deficient transfer

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production, reinforces the need to analyse the mechanisms needed to quantify and qualify the impacts of R&D&I generated in society.

### 5.2 National projects focused on the promotion of knowledge and technology transfer within the Blue Economy

<b>Title</b>	SADSIM-Sistema Aéreo de Detección, Seguimiento e Identificación Marítima. Aerial Detection, Tracking and Maritime Identification System		<b>Logo</b>	
<b>Details</b>				
<b>Organisations (consortium)</b>	TTI (ES) – NOVADRONE(ES) – AEORUM (ES) – INGENOSTRUM (ES)-UNIVERSIDAD DE HUELVA (ES)			
<b>Duration</b>	27 months:  Start date 01/10/2016	<b>Financial support</b>	Programa FEDER Innterconecta  Financial support – FEDER (ERDF):986.514,80	
<b>Description</b>	<p>The transport of goods by sea is of enormous importance for European trade and is increasing in a way that Go on. Spain is an eminently maritime nation, so it is no stranger to the vital importance of this activity for the EU. Therefore, the aim is to develop a system that supports the control and security carried out by the entities port and state security forces over navigation areas, crews and passengers.</p> <p>Given the potential of RPAS (Remotely Piloted Aircraft System) in the civil area, the SADSIM consortium is developing a prototype of airborne maritime detection, tracking and identification system. It consists of the development of an RPAS system that can be operated from an offshore vessel which, thanks to the artificial vision system and the communications system integrated into the different aircraft, provide relevant data for an action plan.</p>			

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	<p>To achieve a functional RPAS prototype for the SADSIM objective, in addition to the control unit on board the aircraft and at the ground station, it is necessary to have:</p> <p>Prototype of high-performance artificial vision: constituted by intelligent cameras based on circuits microelectronics with an algorithm that allows the identification of objects in offshore environments, real-time analysis of flight path and support in landing operation.</p> <p>Communication system: being based on MANET networks, the design of the radio link allows an adaptive and that will only be limited by the mobile node deployment strategy.</p> <p>Landing platform: self-levelling providing a stable reference to the RPAS on its approach to the ship for landing.</p>
<b>Results</b>	<p>The project is based on the growing demand for new products that support the control and security activities carried out by port entities, state security forces or private maritime security companies. This has prompted the partners of the Sadsim consortium to launch the present project to develop a prototype of an airborne system for maritime detection, tracking and identification based on the use of RPAS.</p> <p>Specifically, the objective of this initiative is the development of an RPAS system that can be operated from a boat at sea and that provides its crew with relevant data to facilitate their navigation - mainly surveillance and security, although the system could be adapted for other uses - through a comprehensive and coordinated action in the systems incorporated in the RPAS, such as the artificial vision system and the communications system. A very important development to be carried out is the platform for the landing and take-off of the RPAS from the ship.</p> <p>The University of Huelva (UHU) has participated in this project, in the development of an aerial system of maritime detection, tracking and identification, based on the use of remotely controlled aircraft (RPAS), under the</p>




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	direction of UHU professor José Manuel Andújar, together with members of the research group he directs, Control and Robotics (TEP 192).		
<b>Website / other contacts</b>	<a href="https://www.ttinorte.es/sadsim/">https://www.ttinorte.es/sadsim/</a>		
<b>Title</b>	SEARRISOST-Tecnología para un manejo sostenible del riego con agua marina. Technology for sustainable management of irrigation with sea water	<b>Logo</b>	<b>PROYECTO SEARRISOST</b>
<b>Details</b>			
<b>Organisations (consortium)</b>	Ecohidro Agua y Medio Ambiente Ebt S.L. (ES), IMIDA (Instituto Murciano de Investigación y desarrollo agrario y alimentario) (ES), Nutricontrol, S.L. (ES), Universidad Politécnica de Cartagena (ES)		
<b>Duration</b>	3 years: 01/10/2018- 30/09/2021	<b>Financial support</b>	Total budget: 593.645,83 €  Financial support FEDER (ERDF):84.584,44 €
<b>Description</b>	The SEARRISOST project is introduced in the field of agriculture, bringing together the use of new water sources (desalinated seawater) with the latest technologies used in fertilization control and water desalination, with the aim of developing new practices for the management of desalinated seawater (DMA), which are necessary to achieve sustainable agricultural production.		
<b>Results</b>	<ul style="list-style-type: none"> <li>• To develop highly technological equipment and an expert fertilization service that companies do not currently offer.</li> <li>• Improve efficiency in water use (water savings between 5-10%, and up to 15% of fertilizers) derived from more efficient water and fertilizer management.</li> <li>• Reduce specific energy expenditure and greenhouse gas emissions (up to 20%).</li> </ul>		

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	<ul style="list-style-type: none"> <li>• Maintain environmental sustainability by reducing the damage of DMAs to the soil and reducing the pollution of aquifers.</li> </ul>
<b>Website / other contacts</b>	<a href="https://www.imida.es/-/el-instituto-murciano-de-investigacion-y-desarrollo-agrario-y-alimentario-imida-participa-en-el-proyecto-searrisost">https://www.imida.es/-/el-instituto-murciano-de-investigacion-y-desarrollo-agrario-y-alimentario-imida-participa-en-el-proyecto-searrisost</a>

## Deliverable Task 1 - Alignment with previous national, European and international projects

<b>Title</b>	MARBIOM- Microbioma marino contra el cáncer. Marine microbiome against cancer		<b>Logo</b>	
<b>Details</b>				
<b>Organisations (consortium)</b>	PharmaMar (ES), CSIC-Instituto Mediterráneo de Estudios Avanzados (ES) CSIC-Estación Experimental de Zaidín (ES), Universidad de Almería (ES)			
<b>Duration</b>	3 years: 2018-2021	<b>Financial support</b>	Plan Estatal (ES) Programa Retos-Colaboración Total budget: 2.130.332,51 € Financial support FEDER (ERDF):287.863,20 €	
<b>Description</b>	<p>The technological objective of MarBiom is to evaluate the capacity of a part of the cultivable marine microbiome to identify new molecules with anti-tumour activity, basically polymetric metabolites and non-ribosomal peptides.</p> <p>In the framework of this project, a marine microbiome with the capacity to synthesize molecules with anti-tumor activity is being sought. Marine microorganisms of different classes, mainly extremophilic bacteria and microalgae.</p> <p>The MarBiom project, which will be completed by the end of 2021, aims to incorporate new molecules into the pharmacopoeia, but above all it will highlight the potential of the marine microbiome to fight diseases as feared as cancer. This is something that PharmaMar has been working on for nearly thirty years. But above all, the level of the researchers at University of Almería, whose role is fundamental to this entire project.</p>			
<b>Results</b>	In this project we are working with dozens of families of microalgae and hundreds of strains with the aim of finding species that synthesize molecules with anti-tumor activity not used until now by the pharmaceutical industry and that can lead to the development of completely new drugs.			

### Deliverable Task 1 - Alignment with previous national, European and international projects

	<p>From the University of Almeria, they are in charge of everything related to the development, at different scales, of microalgae culture, to assess their anti-tumour activity and to proceed with the scaling of the culture for the supply of biomass and compounds of interest</p> <p>From the University of Almería, extracts are sent to PharmaMar from the biomass harvested in the laboratories and obtained from microalgae grown under different treatments and environmental conditions, so as to have a significant variety of plant mass, in which Pharmamar seeks biological agents capable of acting against tumours.</p>
<b>Website / other contacts</b>	<a href="https://novaciencia.es/microalgas-cancer/">https://novaciencia.es/microalgas-cancer/</a>


**Deliverable Task 1 - Alignment with previous national, European and international projects**

Title	NOVELFISH - Development of innovative products from low commercial value fishing species		Logo	Not available
Details				
Organisations (consortium)	Universidad de Cádiz (ES), Centro Tecnológico de Acuicultura de Andalucía (CTAQUA) (ES) y la Plataforma Tecnológica Española de la Pesca y de la AcuiculturaPTEPA (ES)			
Duration	2 years: 2018-2020	Financial support	Fondo Europeo Marítimo y de Pesca (FEMP) y Fundación Biodiversidad	
Description	The project aims to add value to unwanted catches, not subject to tax and quotas, which until now had no commercial value or interest for the fisherman, developing products with high added value. In this way, the landing of these species and their marketing with a higher value than they have today will be promoted, thus fostering the sustainability of the fishing sector from an economic point of view, as it is a source of income higher than the current one, as well as from an environmental point of view. In order to achieve this, it is proposed to quantify by-catches of unwanted species not subject to TACs or quotas in the main national fish markets, to characterise the quality of by-catches by place of origin, to develop high value-added products and to transfer the results to the fisheries sector and seafood processing companies. The NOVELFISH project has sought to make new formats of rich and nutritious food products available to the market, and to enhance the value of species hitherto unknown to consumers.			
Results	Nutritional and microbiological characterization of the species has been addressed. The CTAQUA team has been responsible for carrying out the microbiological load studies of the raw materials, in order to determine whether they are suitable for human consumption.  Once the documentation work was done, the preparation process began, obtaining as a final result three types of products: fish sauces, fish pâté and marine			

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	<p>flavours. Specifically, first the sauces were obtained by a process of fermentation and subsequent filtering (redfish sauce, sauce of Atlantic species, sauce of Mediterranean species, horse mackerel sauce and horse mackerel sauce with seaweed).</p> <p>It is important that these products have good availability and sensory quality, since the aim is to provide innovations with potential to enter the market. Based on these criteria, the sauces and pâtés that have given the best results are those from the Atlantic, redfish, horse mackerel and horse mackerel with seaweed. While the rest of the species would be used for powdered marine flavourings.</p> <p>In this way the whole chain benefits. The fishermen, because they obtain an improvement in their income thanks to the valuation of products until now considered of little commercial value; the transforming companies, because they have new raw material with which to work and to take out new formats to the market; and the consumers, because in addition to having new options to give flavour to our meals, we can enjoy a greater sustainability of the seas.</p> <p>Unwanted or discarded catches due to accidental fishing may have a new opportunity to enter our kitchens in the form of novel presentations. Sauces, pâtés and even marine flavours have been developed thanks to the work carried out within the framework of the NOVELFISH project. In order to present the most relevant results of the project and carry out a tasting of the innovative products developed during its execution, an event called "Demolab" was held in Madrid, with the participation of researchers, businessmen and the media.</p>
Website / other contacts	<p><a href="https://fundacion-biodiversidad.es/es/biodiversidad-marina-y-litoral/proyectos-convocatoria-ayudas/desarrollo-de-productos-innovadores">https://fundacion-biodiversidad.es/es/biodiversidad-marina-y-litoral/proyectos-convocatoria-ayudas/desarrollo-de-productos-innovadores</a></p> <p><a href="https://ptepa.es/el-proyecto-novelfish-presenta-sus-resultados-finales/">https://ptepa.es/el-proyecto-novelfish-presenta-sus-resultados-finales/</a></p>

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<b>Title</b>	SAMPA 2-Modelo hidrodinámico de alta resolución del puerto de Algeciras. High resolution hydrodynamic model of the port of Algeciras		<b>Logo</b>	
<b>Details</b>				
<b>Organisations (consortium)</b>	Puertos del Estado (ES), Autoridad Portuaria Bahía de Algeciras, Cádiz (ES), Universidad de Málaga (ES), Agencia Estatal de Meteorología (AEMET) (ES), Universidad de Cádiz (ES) and Instituto hidrográfico de la Marina (ES)			
<b>Duration</b>	2010-2013 and 2015-2016	<b>Financial support</b>	Financed by the Port Authority of the Bay of Algeciras (APBA) and State Ports of Spain	
<b>Description</b>	<p>The SAMPA project, financed by the Port Authority of the Bay of Algeciras (APBA) and State Ports between 2010 and 2013, was a pilot project for the integration of a high-resolution numerical model in an operational system in which the Group of Physical Oceanography of the University of Malaga (GOFIMA) developed the hydrodynamic model. The numerical model that was behind SAMPA, however, did not have enough resolution to resolve the port dynamics, and APBA, in 2015, financed the second generation of the project (SAMPA2), with the objective of covering this gap. Between the second half of 2015 and throughout 2016, after a careful analysis of the improvable aspects of the current SAMPA, GOFIMA developed a completely new system: a model nested in three coupled domains, which provides a progressive increase in resolution from the regional to the port scale. Added to this is the added value of water quality analysis tools for the Port of Algeciras in accordance with ROM5.1-13.</p> <p>For some time now, State Ports and the various Spanish Port Authorities have been equipped with systems for the prediction, monitoring and warning of variables in the physical environment (wind, currents, waves, etc.), the basic</p>			

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	<p>objective of which is to obtain data and information to minimise the risks associated with complex port activity, both in the design phase and in the construction and operation phases.</p> <p>The latest technical advances now enable a substantial improvement in this type of system, and the SAMPA 2 project is part of that class of new developments. Its predecessor, the SAMPA project, reduced the deficiencies that existed in the Strait of Gibraltar in this area, increasing the capacity for prediction, measurement and warning, which is allowing for more efficient, safe, sustainable and economic management of the ports in the Bay of Algeciras and Tarifa.</p>
<b>Results</b>	<p>SAMPA 2 will make it possible, among other things, to have a more accurate forecast of the ocean-meteorological conditions (winds, currents, waves and sea level) of the Strait of Gibraltar and the Bay of Algeciras, which will result in a greater degree of prevention and warning capacity, since the new systems being developed will provide more precise knowledge of the storms and thus reduce the risks associated with them.</p> <p>Thanks to the SAMPA projects, the Bay of Algeciras becomes a pilot area in the development of new innovative systems, which will be gradually implemented in other Spanish ports. This expansion process is already being developed within the framework of the SAMOA initiative (the Port Authority's Meteorological and Oceanographic Support System), in which 18 Port Authorities are participating</p> <p>The SAMPA 2 project consists of three main modules: the improvement of the permanent measurement system; the development of new forecasting tools based on numerical models; and the updating of visualization and early warning systems for the detection of adverse situations, including the publication and sending of warnings to the different users of the port community. SAMPA 2 will develop all these systems, allowing their use to be even more widespread in the Port Authority of the Bay of Algeciras.</p>
<b>Website / other contacts</b>	<p><a href="http://www.puertos.es/es-es/Paginas/AFondo/Sampa.aspx">http://www.puertos.es/es-es/Paginas/AFondo/Sampa.aspx</a></p>




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<b>Title</b>	<p>ALQUABIOTIC-Mejora de la calidad nutricional de alimentos para acuicultura mediante la incorporación de hidrolizados de microalgas enriquecidos en microorganismos probióticos.</p> <p>Improvement of the nutritional quality of feed for aquaculture by incorporating microalgae hydrolyzates enriched in probiotic microorganisms</p>	<b>Logo</b>	
<b>Details</b>			
<b>Organisations (consortium)</b>	Global Feed (ES), Biorizon Biotech (ES), DMC Research Center (ES), Universidad de Almería (ES), Universidad de Granada (ES) and Fertinagro Biotech (ES)		
<b>Duration</b>	2 years: 01/10/2018- 01/12/2020	<b>Financial support</b>	<p>Call FEDER ININTERCONECTA 2018 (ES)</p> <p>Total budget: 1.067.387,00 €</p> <p>Financial support FEDER (ERDF): 516.712,00 €</p>
<b>Description</b>	<p>It aims to develop a new feed for aquaculture where fishmeal is replaced by microalgae with a high protein content, since fishmeal poses a growing environmental sustainability problem due to the increase in fish catches for the development of feed for aquaculture. Previous studies have shown that the use of microalgae in this type of feed improves the digestibility and immune system of the fish that are fed with them. Together with the business consortium, the University of Almeria (Research groups RNM346-Aquatic Ecology and Aquaculture and BIO173-Biotechnology of marine microalgae) and the University of Granada (Research group BIO160-Study of antagonistic substances produced by microorganisms) participate as research centres.</p>		

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<b>Results</b>	<p>In addition to micro-algae, the project will work on the incorporation of probiotic micro-organisms in probiotic feed formulations as a novel strategy to reduce the use of antibiotics in aquaculture practices, as well as on the inclusion of enzymes that improve the characteristics, assimilation and digestibility of aquaculture feed. The ALQUABIOTIC project draws in an integral way a new feed concept in which the leading company GLOBAL FEED will be responsible for the development and evaluation of the new additives, Biorizon Biotech will be in charge of studying new microalgae with potential for their use as fish meal substitutes, as well as their processing and, DMC Research Center will be the member responsible for the consortium to study and optimize new probiotic microorganisms.</p>
<b>Website / other contacts</b>	<p><a href="http://www.biorizon.es/areas_de_trabajo/proyectos_idi/#1554367270287-cce4f11a-4543">http://www.biorizon.es/areas_de_trabajo/proyectos_idi/#1554367270287-cce4f11a-4543</a></p>


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<b>Title</b>	ORPHEO-Optimization of the Profitability of Wind and Wave Energy Hybrid Platforms”		<b>Logo</b>	 <div>OPTIMIZACIÓN RENTABILIDAD PLATAFORMAS HÍBRIDAS ENERGÍA EÓLICA OLAS</div>
Details				
<b>Organisations (consortium)</b>	INGETEAM SERVICE S.A.(ES), Plataforma Oceánica de Canarias (ES), Universidad de Cádiz (ES), Universidad de Málaga (ES), ENEROCEAN (ES)			
<b>Duration</b>	3 years:  june2016 –  june2019	<b>Financial support</b>	Plan Estatal (ES) Programa Retos Colaboración, call 2016  Total budget: 478.464,03€	
<b>Description</b>	The ORPHEO project will study the techniques that allow the optimization through advanced and intelligent control of the economic profitability that can be obtained from an integrated floating Hybrid Platform that includes generation from wind and wave energy (from the waves) connected to the electricity grid as part of a renewable energy park in the sea.			
<b>Results</b>	<p>The installation of W2Power in a 1:6 scale wind configuration in Gran Canaria has served as a test basis for advanced control algorithms in ORPHEO. Ingeteam, after having modified the platform/wind turbine control hardware and software to integrate the control techniques designed by EnerOcean, the University of Malaga and the University of Cadiz, has evaluated the results obtained in terms of stability improvements, production or reduction of loads on the floating structure. The results obtained have been very positive, improving the production of nearby wind turbines and their influence on the structural fatigue of the W2Power platform, as well as increasing its stability and reducing the maximum accelerations and angles to which the wind turbines are subjected.</p> <p>The GAPSIS group of the University of Cadiz has designed and validated MPC controllers for wave converters, improving the capture efficiency of these</p>			

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	<p>converters in long periods or far from their natural frequency, compared to other types of controls such as quadratic control or latching.</p> <p>The GOFICA group of the University of Cadiz, in collaboration with EnerOcean, has made structural models of critical elements, such as the tower for wind turbines, and analysed the fatigue life of these elements, obtaining results that indicate an increase in fatigue life of 20%.</p> <p>For its part, the University of Malaga has studied the problem of multi-target control for wind turbines on floating platforms, and has evaluated various intelligent control techniques, such as neural networks and fuzzy logic. This last technique has been selected to develop several controllers, with different configurations, which have been compared with each other, and which allow the integration of several control objectives. To develop these controllers, and to evaluate their effects, a simulation tool has been integrated through FAST and MATLAB-Simulink. Thanks to this tool it is possible to estimate the influence on the behaviour of the semi-submersible platform of different controllers, under different wind conditions. Likewise, the simulation tool allows for different scenarios of the state of the electrical network and the impact on the useful life.</p>
<b>Website / other contacts</b>	<a href="http://proyecto-orpheo.es/">http://proyecto-orpheo.es/</a>


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<b>Title</b>	CO-Evolve4BG - Co-evolution of coastal human activities & Med natural systems for sustainable tourism & Blue Growth in the Mediterranean.		<b>Logo</b>	
<b>Details</b>				
<b>Organisations (consortium)</b>	National Institute of Marine Sciences and technologies, Tunisia (coordinator), Region of Lazio, Italy, Region of East Macedonia & Thrace, Greece, University of Murcia, Spain, Valenciaport Foundation for Research, Promotion and Commercial Studies of the Valencian region, Spain, National Agency for Environment Protection, Tunisia, Ministry of Public Works and Public Transport, Lebanon, Al Midan NGO, Lebanon, AMWAJ of the Environment, Lebanon			
<b>Duration</b>	3 years:  01 September 2019-31 august 2022	<b>Financial support</b>	ENI CBC MED Program- 2014-2020.  Total budget: 2.9 million €	
<b>Description</b>	The growth of tourism in the Mediterranean, especially in coastal areas, and the effects of climate change will continue to affect landscapes, soil and coasts stability/erosion, put pressure on species and water resources, and increase waste and pollution discharges into the sea. In this context, the Co-Evolve4BG project aims at analysing and promoting the co-evolution of human activities and natural eco-systems in touristic coastal areas, towards sustainable development of tourist activities based on the principles of Integrated Coast Zone Management (ICZM) and Maritime Spatial Planning (MSP), promoting at the same time Blue Growth in the Mediterranean. The analysis and the demonstration actions foreseen by the project will enhance sustainable coastal and maritime tourism development fully exploiting the Blue Economy potential, promoting the creation of business and job opportunities in the field of ecosystem-oriented services,			

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	coastal and maritime tourism, coastal management and adaptation to climate change. Co-Evolve4BG is part of a wider project, “Med Coast for Blue Growth” labelled by the 43 Countries of the Union for the Mediterranean.
<b>Results</b>	<p>Key threats and enabling factors for the sustainable development of coastal and maritime tourism will be analysed at Mediterranean scale and in 7 pilot areas with different features, across 5 different countries, selected to produce widely applicable and transferable results. The analysis will be complemented by a set of indicators allowing responsible authorities to assess the level of sustainability of tourism in their area and engage in plans/pilot actions which mainstream the ICZM principles into public action. Thanks to Co-Evolve4BG, conflicts among tourism and other uses of coastal and maritime spaces will be tackled and conditions for more sustainable and responsible tourism in coastal areas will be set. Expected achievements of CO-Evolve4BG project will be:</p> <ul style="list-style-type: none"> <li>• 1 integrated analysis of threats and enabling factors for sustainable tourism at Mediterranean level</li> <li>• 1 toolkit containing indicators to analyse the level of sustainability of tourism</li> <li>• 2 rounds of training addressed to partners and local actors involved in pilot actions</li> <li>• 7 pilot actions for developing sustainable tourism in the pilot areas.</li> </ul> <p>The main beneficiaries of the project are coastal municipalities and regional authorities, Ministries of environment, tourism and development, SMEs and tourism-related companies, Research institutions and universities.</p>
<b>Website / other contacts</b>	<a href="http://www.enicbcmmed.eu/projects/co-evolve4bg">http://www.enicbcmmed.eu/projects/co-evolve4bg</a>

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Title	MarENet-Atlantic Maritime Ecosystem Network		Logo	
Details				
Organisations (consortium)	Campus do Mar (SP), University of Vigo (SP), Port of Vigo (SP), ICSEM, Institute for the enterprise sustainable growing (SP), CIT Cork Institute of Technology (Ir), IMDO- Ireland, CEPESCA- Spanish Fishing Confederation (SP) , ACLUNAGA- Galician Naval Cluster Association (SP)			
Duration	In development. Started in July 2019	Financial support	EMFF-BlueEconomy-2018  Public financing: 713,824.93€  Private financing: 154,726.35€  Approved grants: 555,872.82€	
Description	The project aims to strengthen cooperation between the maritime business and the academic sector through the development of a Digital Network of Blue Races. This network, made up of training centres and representatives of the industrial sector, was created with the intention of satisfying the needs for updating professional profiles within the port maritime sector and giving visibility to new business opportunities in the blue economy. Through the project consortium, actors in the blue economy and related value chains (shipping, shipbuilding and ship repair, shipping, blue biotechnology, fishing and aquaculture) will join forces to offer students and workers the skills necessary to adapt their knowledge to the current needs of the sector and take part in the development of the blue economy. To achieve this objective, an executive committee will be defined to support a transregional network of industries and educational centres that will constitute the Atlantic Maritime Ecosystem Network. The Network will be made up of training centres and companies from the three main maritime sectors: shipbuilding, port logistics and fishing. This will be in charge of developing codes of good practice and new tools in the Atlantic maritime environment, thus			

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	<p>promoting collaboration between the different actors that make up the same in order to integrate its strengths and identify innovative proposals in the area of each region. The main physical tool to support the network will be an online platform that will be in charge of supporting the exchange of information between the parts of the EU and promoting collaborative actions between companies and the academic world. In this way, a learning environment and a professional knowledge exchange program will be created to promote the development of transregional training courses. This network will be consolidated with the creation of a Maritime Knowledge Centre on which to build, in the long term, a place of collaboration between the industrial sector, education and public authorities.</p>
<b>Results</b>	<ul style="list-style-type: none"> <li>• Promote alliances in the port context focused on promoting job creation and improving maritime training programs.</li> <li>• Solve specific training gaps based on the market demands of the port context.</li> <li>• Improve the level of transfer of knowledge from the University to the industry, as well as improve the level of transfer of the real needs of the industry to the universities and vocational training centres.</li> <li>• Improve professional skills related to the maritime-port sphere.</li> <li>• Development of multidisciplinary approaches among stakeholders in the maritime-port area to advance together in balanced training to the demands of the port market.</li> <li>• Development of entrepreneurial skills and specialization of young people in three sectors of the blue economy (port logistics, shipbuilding and fishing) adapting them to the new challenges of the century, as well as adapting profiles to new emerging sectors (blue biotechnology , renewable energy and port ecology), associated with port environments.</li> </ul>
<b>Website / other contacts</b>	<p><a href="http://bluegrowthvigo.eu/proyecto/red-digital-de-carreras-azules-marenet">http://bluegrowthvigo.eu/proyecto/red-digital-de-carreras-azules-marenet</a></p>




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Title	PLISAN – Hub logístico 4.0		Logo	
Details				
Organisations (consortium)	Port of Vigo (SP), Vigo Free Zone Consortium (SP), Galician Institute of Housing and Land (SP)			
Duration	Starting date: 2019	Financial support	EMFF-BlueEconomy-2018  Public financing: 13,077million €	
Description	<p>In the field of infrastructure development, the PLISAN - Logistics Hub 4.0 project aims to provide PLISAN with the infrastructures and technologies necessary to make it an innovative intermodal industrial logistics platform in order to position it as a reference industrial installation site and solve the lack of available port spaces.</p> <p>In this project, the intelligent intermodal connection of goods (port-rail-road) takes on special importance, through the creation of a PLISAN module that can be integrated into Smart ViPort to store and collect data related to energy consumption, inputs and outputs, and management of administrative procedures, as well as the development of the infrastructures and technologies necessary to satisfy the demands of advanced logistics 4.0.</p> <p>Another of the points integrated in this project is the creation of the Logistics Knowledge Centre, from which to carry out activities aimed at the study, training and research in logistics and innovation.</p> <p>It is a transversal project within the framework of the Blue Growth Plan for its contribution to three of the objectives of the Port of Vigo:</p> <ul style="list-style-type: none"><li>• Connected Port: by betting on the inclusion of cutting-edge digital tools in order to improve energy management and efficiency.</li></ul>			

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	<ul style="list-style-type: none"> <li>• Innovative Port: integrated into an ecosystem of knowledge, transfer, entrepreneurship and R + D + i, enhances the competitiveness of the maritime-port economy from social and environmental sustainability.</li> <li>• Inclusive Port: focused on people, promotes quality employment and professional development, reinforcing professional capacities and promoting social innovation. Likewise, through advisory actions, the aim is to ensure that workers obtain certifications and homologations of the work performed.</li> </ul>
<b>Results</b>	<p>Phase I</p> <ul style="list-style-type: none"> <li>• Smart intermodal connection for goods with the Port of Vigo and other peninsular activity centres (railway siding).</li> <li>• Design of purification and purification facilities.</li> <li>• Provision of infrastructure and technologies prepared to meet the needs of advanced logistics.</li> <li>• Implementation of sustainability and energy efficiency measures.</li> <li>• Design of a PLISAN module that can be integrated into Smart ViPort for the storage and collection of data related to energy consumption, entry and exit of goods, and management of administrative procedures.</li> <li>• Creation of a Logistics Knowledge Centre.</li> </ul> <p>Phase II</p> <ul style="list-style-type: none"> <li>• Intermodal connection for passengers in the Vigo, Salvaterra, As Neves and other population centres of interest.</li> </ul>
<b>Website / other contacts</b>	<a href="http://www.bluegrowthvigo.eu/proyecto/hub-logstico-40">http://www.bluegrowthvigo.eu/proyecto/hub-logstico-40</a>

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Title	TTQS Lonja 4.0	Logo	
Details			
Organisations (consortium)	Port of Vigo (SP), CTAG-Galician Automotive Technology Center (SP)		
Duration	Starting date: 2019	Financial support	EMFF-BlueEconomy-2018  Public financing: 15,000€. Currently the project is being executed with own funds of the Port Authority of Vigo. In addition, a search for co-financing is being carried out through existing mechanisms (FEMP, FEDER, ...)
Description	Lonja 4.0 project promotes, by applying prior knowledge in the automotive, ICT and fishing sectors, the promotion of competitiveness and viability of companies in the fishing sector. Specifically, work will be done on improving ergonomics, information management, improving flows and production management. Thus Lonja 4.0 takes advantage of existing technologies on the market today to optimize the activity carried out in the port and, through the application of ICT tools, take complete control of the information about catches, transactions and sales that occur daily in this space.  The improvements proposed within the Lonja 4.0 project have a positive impact on handling processes, product quality and the energy efficiency of the fish market activity, adapting the fish market to the INDUSTRY 4.0 concept.		
Results	The project seeks the excellence of the fish market services of the Port of Vigo through the integration of efficient and flexible processes that allow to improve working conditions and adapt quickly to the demands of the market. In this way, the project promotes a:		

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	<p>Innovative port that uses technological solutions for the distribution of spaces among users and that uses simulation tools to predict, compare and optimize their behaviour in various scenarios.</p> <p>Port Connected with each of the Galician markets in addition to the main national and international markets, through computer solutions for communication and consolidation of information.</p> <p>Inclusive port working on aspects related to ergonomics and occupational health, in order to contribute to improving the working conditions of professionals in the sector.</p>
<b>Website / other contacts</b>	<a href="http://bluegrowthvigo.eu/proyecto/lonja-40-ttqs">http://bluegrowthvigo.eu/proyecto/lonja-40-ttqs</a>



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<b>Title</b>	LIFE ADAPTAMED - Protection of key ecosystem services by adaptive management of Climate Change endangered Mediterranean socio-ecosystems		<b>Logo</b>	
<b>Details</b>				
<b>Organisations (consortium)</b>	The Department of Agriculture, ranching, Fishery and Sustainable development of the Regional government of Andalusia, The Environment and Water public agency of the Regional government of Andalusia, The Spanish National Research Council. CSIC, University of Almería, University of Granada, The International Union for Conservation of Nature (IUCN), The Park of Sciences of Andalusia, The company Lanjarón as co funder			
<b>Duration</b>	6 years:  16.07.2015 31.12.2021	<b>Financial support</b>	LIFE Programme  Total budget: 5,462,678.00 €  EU Contribution: 3,234,049.00 €	
<b>Description</b>	The project is guided by the Regional Government of Andalusia. The project focuses on developing, implementing, monitoring, evaluating and disseminating adaptative management measures, with an eco-systemic approach, addressed to those socio-ecosystems identified as key for the provision of soil retention, pastures, temperature regulation, water provision, prevention of forest fires and of desertification. The project actions aim to reduce the negative impact of CC in the NPAs area of influence and their socioeconomic fabric by focusing on implementing specific adaptive measures addressed to those key socio-ecosystems with a major role in the provision of the aforementioned ecosystem services. As a result of this, an increase in the resilience of the concerned socio-			

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	<p>ecosystems is expected, in such a way that their future provision of services will also be improved, if compared to the scenario of no intervention.</p> <p>The project will be implemented in three Natural Protected Areas catalogued both as Special Area of Conservation (SAC) and Special Protection Area (SPA) by the EU Habitats and Birds Directives. The project is a demonstration project with an ecosystem-based approach. To fight the ecosystems services impoverishment caused in the project area by Climate Change the project aims to increase the resilience (adaptive management to prevent forest fires, desertification, droughts) and conservation status (surface extension, net primary production, reproductive health, survival rate), of several key socio-ecosystems that have a major role in providing these services.</p>
<b>Results</b>	<ul style="list-style-type: none"> <li>• Consolidating the monitoring programs started in the three nodes, generating synergies, and proposing common objectives under a common conceptual framework.</li> <li>• Launching adaptive management projects where scientific knowledge is applied to management, and an evaluation of the proposed management measures is made.</li> <li>• Social immersion of the project and citizen participation.</li> <li>• The project will also produce six “Good practice manuals” covering climate adaptation management practices for shrubs, pine woods, pre-desert scrubs, mountain forests and for combating cork oak pests.</li> </ul>
<b>Website / other contacts</b>	<a href="https://www.lifeadaptamed.eu/">https://www.lifeadaptamed.eu/</a>

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Title	Exploitation and use of marine water resources in the cultivation of microalgae in the continental system		Logo	 
Details				
Organisations (consortium)	University of Malaga. Research groups, Algayield, S.L			
Duration	2 years: Oct. 2018 April 2020	Financial support	Co-funded by The International Excellence Campus of the Sea. CEIMAR  Total budget: 36.016,92 €  Co-funded by CEIMAR: 25.000 €	
Description	<p>This kind of projects funded by CEIMAR is a clear example of knowledge transfer generated from academia and applied by a company for the commercialization in this case of microalgae, capitalizing the value of the research.</p> <p>This project consists of the research on the adaptability of seawater as an input to carry out processes that could perfectly work with a more efficient and larger alternative in the cultivation of microalgae. Seawater for not only marine but also inland aquaculture is emerging as a supplier and substitute with respect to fresh drinking water, for which only adaptations such as the type of water as a water resource that can be part of the culture, need to be carried out. , which makes it an easily implantable methodology in a multitude of industries that are close to coastal and / or marine areas and that, to this day, still make use of water resources that compete with those that civil society needs for other uses basic. The project has had the following goals:</p> <ul style="list-style-type: none"><li>Assessment of suppliers of consumables and machinery necessary for the execution of the project</li></ul>			

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	<ul style="list-style-type: none"> <li>• Identification of suppliers for the survey and transport of sea water</li> <li>• Creation of a working group with the departments of the University of Malaga involved in the project</li> <li>• Scaling of cultivation of <i>Spirulina platensis</i> of strains in 100 ml flasks. Up to a final volume of approximately 20,000 litres</li> <li>• Installation of microcosm photobioreactors to test the viability of using seawater</li> <li>• Assessment of the culture of <i>Spirulina platensis</i> with sea water in an 80 m<sup>2</sup> raceway.</li> </ul>
<b>Results</b>	<ul style="list-style-type: none"> <li>• Achievement of a provider for the transfer of sea water</li> <li>• Installation of 30,000-liter tanks for the storage of sea water</li> <li>• Closing of the schedule with the IPs of the University of Malaga</li> <li>• Use of Chemical Engineering laboratories for analysis of sea water <ul style="list-style-type: none"> <li>- Scaled culture up to 200 litres.</li> </ul> </li> </ul>
<b>Website / other contacts</b>	<a href="http://algayield.com/en/about-algayield/">http://algayield.com/en/about-algayield/</a>



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<b>Title</b>	Evaluation of enzyme additives on the nutritional use of feeds with a high contents of plant ingredients for juveniles of Mugil cephalus.	<b>Logo</b>	 
<b>Details</b>			
<b>Organisations (consortium)</b>	University of Almeria. Research groups, Pesquerías Isla Mayor (PIMSL)		
<b>Duration</b>	2 years: Oct. 2018 January 2020	<b>Financial support</b>	Co-funded by The International Excellence Campus of the Sea. CEIMAR  Total budget: 30.000 €  Co-funded by CEIMAR: 29.950 €
<b>Description</b>	This kind of projects funded by CEIMAR is a clear example of knowledge transfer generated from academia and applied by a company for the commercialization, capitalizing the value of the research. The project addresses the development and evaluation of feed for an omnivorous fish species based on the use of low nutritional value plant by-products. In order to counteract the nutritional limitations derived from the use of such by-products, among which rice bran and beer bagasse stand out, enzymatic treatments of these are carried out prior to their inclusion in the feed with a mixture of glucanases and phytase. The objective is to increase the bioavailability of both the carbohydrates present in these ingredients in the form of PNA (non-starch polysaccharides), and the phosphorus present as phytate, since both nutrients have a very low digestibility. The trials contemplate different stages of evaluation through in vitro experiments, pilot scale feeding trials and a final larger scale trial under farmed conditions.		

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<b>Results</b>	<p>The enzymatic treatment significantly increased the potential bioavailability of both reducing sugars and pentoses, and significantly reduced that of phytate. The in vitro digestive simulation assay confirmed a significantly higher release of pentoses from the enzyme treated feeds when compared to controls. The in vivo digestibility assay evidenced that the enzymatic treatment determined: a significant increase in the digestibility of protein for one the feeds, and a decrease in that of phosphorus in the other.</p> <p>Due to the poor development of the intestine in young fish, the increase in digestive bioavailability of a significant fraction of phosphorus previously present in the form of phytate was not accompanied by the corresponding increase in the absorption capacity of such element at intestinal level. The enzymatic treatment determined a significant increase in the amount of available pentoses while decreased the content of phytate initially present both in the commercial and in the experimental feeds. The growth trial showed a significant improvement in the efficiency of food utilization and growth rates in fish receiving the experimental feed with the enzyme treatment, although these parameters were not as good as those obtained with the commercial feed. The improvement of the nutritional use of plant ingredients in aquaculture through the use of enzymes has been highlighted by different authors, who suggest among the potential positive effects, the reduction in the viscosity of the digestion, the increase in the bioavailability of some nutrients, the reduction in the elimination of faecal waste, as well as a modification of the microbial profile that improves the immunological status of fish. The results obtained in the present work seem to confirm some of such positive effects at least in the case of <i>M. cephalus</i> and oriented the future development of commercial feeds based on vegetable by-products for this species.</p>
<b>Website / other contacts</b>	<a href="http://www.vetalapalma.es/index.asp?LG=2">http://www.vetalapalma.es/index.asp?LG=2</a>

## 6. Country report – UK

### 6.1 Knowledge and Technology Transfer background

The UK National Bootcamp took place in Liverpool on the 4th November 2019. As described in the National Bootcamp UK report, the UK Research Councils and Catapults collaborating with Government Science Office and different governmental departments and authorities (e.g. Department for Transport), encourage the unknown to the established. Examples of best tools for ice breaking include:


1. Researcher in Residence programme allowing the researchers to work with Catapults and industrial partners on the selected topics which deems important for TH players;
2. Business Fellowship programme in which the heads of research offices from the UK universities are invited to work with Catapults centres to address the industrial and governmental research needs by using their university research strengths in an individual or a collaborative way;
3. Research councils and Catapults industrial case PhD programme; and
4. Research network events by research councils and Catapults including research café by catapults and research roadshows by research councils.

The relevant Blue Economy sectors in the UK mainly include coastal tourism, marine non-living/living resources, port activities, shipbuilding and repair and maritime transport. Below some examples are presented on successful projects in UK on the blue maritime field:

- Initiative Towards sustAinable Kerosene for Aviation (ITAKA) - The overall objective of ITAKA was to develop a full value-chain in Europe to produce sustainable aviation biofuels addressing challenges for the development of the production at large-scale.
- UK Catapult framework – to link innovation from research to the market – bringing the knowledge together under an umbrella. Build on the strengths of the UK, encourage start-ups, look for ideas.
- SELIS (Towards a Shared European Logistics Intelligent Information Space) - a network of logistic communities' specific shared intelligent information spaces and represents also a good example, as the technology was transferred and used in several industry labs (e.g. DHL, Sonae, Andria Combi and others).

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### 6.2 National projects focused on the promotion of knowledge and technology transfer within the Blue Economy

<b>Title</b>	Windfarm Autonomous Ships Project (WASP)	<b>Logo</b>	
<b>Details</b>			
<b>Organisations (consortium)</b>	Lead by Autonomous Surface Vehicles Limited (ASV Ltd), HOULDER LIMITED, Offshore Renewable Energy Catapult with SeaPlanner Ltd, University of Portsmouth		
<b>Duration</b>	2 years - 01/01/2018- 31/12/2019	<b>Financial support</b>	Innovate UK Collaborative R&D - £ 667,489
<b>Description</b>	<p>The UK economic opportunity in offshore wind energy is robust and growing. Further cost reduction is essential to achieve parity with fossil fuel and nuclear energy systems. The application of Robotics and Artificial Intelligence (RAI) is being assessed in all other major sectors. For offshore wind, RAI offers the opportunities to minimise the need to send personnel offshore, reduce health &amp; safety risks, improve offshore wind turbine availability and potentially significantly reduce OPEX costs by c2.8% and reduce turbine downtime by c13%.</p> <p>Blue economy sector: Renewables</p> <p>Relevance for the Blue Economy: Baseline for autonomous vessel operations in offshore wind</p> <p>Minimise the need to send personnel offshore, reduce health &amp; safety risks, improve offshore wind turbine availability, and reduce OPEX costs and reduce turbine downtime.</p> <p>Windfarm Autonomous Support vessels Project (WASP) will undertake an 18-month industrial research project to benchmark the technological challenges</p>		

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	<p>facing the sector transition to autonomous support operations and chart a roadmap for the phased introduction of RAI systems for spares supply, asset surveillance, security patrol and crew transfer. The project will also create design specifications for new offshore command &amp; control infrastructure and an innovative autonomous vessel with integrated robotic cargo capability.</p> <p>A consortium led by ASV Ltd (autonomous vessel AI technology) with SeaPlanner Ltd (offshore wind marine coordinator systems), Houlder (gyro stabilised robotic arm), University of Portsmouth and Offshore Renewable Energy Catapult will carry out industrial research to establish the baseline for autonomous vessel operations in offshore wind and verify the timeframe for their introduction. University of Portsmouth will develop decision support algorithms to enhance SeaPlanner marine coordination software enabling integrated manned and autonomous vessel offshore operations. ORE Catapult's cost and performance analysis will pinpoint how this new capability increases uptime of offshore wind turbines.</p>
<b>Results</b>	<p>Higher productivity and reduced operating costs:</p> <ul style="list-style-type: none"> <li>• An upfront capital cost reduction of £7.5m</li> <li>• An annual operating cost reduction of £850,000, or £21m over a 25-year operating life</li> <li>• Effective increase in net capacity factor of 0.1% due to faster servicing</li> <li>• The cost of the USV could be as high as £5,300 a day and still breakeven on the lifetime cost of the site</li> <li>• Increasing the use of autonomous vessels will also lead to the creation of highly skilled, cross sector jobs in areas such as the integration, planning and supervision of autonomous vessels, boosting the UK's maritime and digital supply chains.</li> </ul>
<b>Website / other contacts</b>	<p><a href="https://ore.catapult.org.uk/stories/wasp/">https://ore.catapult.org.uk/stories/wasp/</a></p>

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<b>Title</b>	Conceptual Design for a New Commercial Vessel	<b>Logo</b>	Not available
<b>Details</b>			
<b>Organisations (consortium)</b>	Concept Marine Ltd		
<b>Duration</b>	<1 year - 01/05/2016- 31/10/2016	<b>Financial support</b>	Innovate UK GRD Proof of Market: £24,439
<b>Description</b>	<p>Ballast is required to maintain stability and manoeuvrability when ships are un-laden, with water now the modern choice - taken up and discharged when cargo is unloaded and loaded, respectively.</p> <p>Blue economy sector: Wastewater Management</p> <p>Relevance for the Blue Economy: Ballast water is responsible for the transfer of aquatic microorganisms and potentially pathogenic bacteria across oceans - Introduction of invasive species has become one of the four greatest threats to oceans globally, causing problems such as ecosystem damage, riverbank erosion, and marine equipment damage.</p> <p>Objectives: designed a commercial vessel that does not require any ballast.</p>		
<b>Results</b>	<ul style="list-style-type: none"> <li>• Concept Marine Ltd have designed a commercial vessel that does not require any ballast.</li> </ul>		
<b>Website / other contacts</b>	<a href="https://gtr.ukri.org/projects?ref=700669">https://gtr.ukri.org/projects?ref=700669</a>		

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<b>Title</b>	LHOFT - Liverpool - Humber Optimisation of Freight Transport	<b>Logo</b>	Not available
<b>Details</b>			
<b>Organisations (consortium)</b>	P&O Ferries Holdings LTD (lead), DB Cargo (UK) LTD, H.J. HEINZ Manufacturing UK LTD, Lancaster University, Nestle UK LTD., Oxford Rail Strategies LTD, PRB Associates LTD, Stena Line LTD, Unipart Logistics LTD, University of Hull, Zipabout LTD		
<b>Duration</b>	4 years - 09/2016 - 08/2018	<b>Financial support</b>	Innovate UK Collaborative R&D: £1,489,613
<b>Description</b>	<p>The LHOFT Project - Liverpool - Humber Optimisation of Freight Transport uniquely brings together the combined strength of a major cargo owner (Unilever) the two key port operators at each end of the M62 corridor (ABP on the Humber and Peel Ports on the Mersey) to combine with experts from the rail industry.</p> <p>Blue economy sector: Ports and related services</p> <p>Relevance for the Blue Economy: route optimisation</p> <p>These freight journeys could be further optimised using rail and offers the potential for a huge reduction in the number of freight miles on the UK road system.</p> <p>The University of Hull's Logistics Institute plans to develop an end-to-end journey model that promotes the diversion of trade from long distance North-South road routes to ports on the East and West of the country.</p> <p>Collaboration with other organisations: P&amp;O Ferries Holdings, DB Cargo, H.J. Heinz Manufacturing, Lancaster University, Nestle UK., Oxford Rail Strategies Ltd, PRB Associates, Stena Line Limited, Unipart Logistics, University of Hull, Zipabout Ltd</p>		

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<b>Results</b>	Technology to be developed by the University will enable multiple cargo owners to pool volumes to de-risk new sea and rail services through northern ports so removing risk barrier that prevents more cargo using northern ports today. Flows to be targeted include ferry services to the continent and all container services where the origin or destination of the cargo is on the M62 corridor.
<b>Website / other contacts</b>	<a href="https://trimis.ec.europa.eu/project/lhoft-liverpool-humber-optimisation-freight-transport">https://trimis.ec.europa.eu/project/lhoft-liverpool-humber-optimisation-freight-transport</a>



**Deliverable Task 1 - Alignment with previous national, European and international projects**

<b>Title</b>	PVD-Pivoting Deck Vessel prototype construction	<b>Logo</b>	Not available
<b>Details</b>			
<b>Organisations (consortium)</b>	D&D Armstrong Ltd (T/A North Sea Logistics), Denley Hydraulics Limited, Offshore Wind Accelerator		
<b>Duration</b>	1.7 years - 01/12/2016 - 30/09/2018	<b>Financial support</b>	Innovate UK Collaborative R&D: £1,864,379
<b>Description</b>	<p>The project aim is to build a prototype Pivoting Deck Vessel (PDV) ready for trial by utilities, in which the PDV will demonstrate that it increases offshore wind electricity generating revenues by reducing turbine downtime, thereby decreasing the cost of offshore wind electricity and lowering UK consumer electricity bills. Utilities require vessels to transfer crew and cargo to offshore wind turbines for maintenance, as well as for wind farm construction. The problem is that current vessel designs do not allow for safe and cost-effective access to turbines in rougher seas and so when seas are high, turbine downtime increases, electricity generating revenues are lost and the costs of offshore wind generation rise.</p> <p>Blue economy sector: Renewables</p> <p>Relevance for the Blue Economy: By increasing renewable electricity generation, the amount of fossil fuel generation required reduces, thus also lowering carbon emissions and increasing security of supply.</p> <p>Current vessel designs do not allow for safe and cost-effective access to turbines in rougher seas and so when seas are high, turbine downtime increases, electricity generating revenues are lost and the costs of offshore wind generation rise. The innovative pivoting deck design of North Sea</p>		

## Deliverable Task 1 - Alignment with previous national, European and international projects

	<p>Logistics' PDV addresses this problem, allowing safe access to turbines in higher seas for crew and cargo.</p> <p>UK work boat operator North Sea Logistics has developed a novel vessel with a pivoting deck technology, designed to increase safe access to offshore wind turbines in higher seas, cutting the number of lost electricity generation days by increasing maintenance days, thus increasing electricity generated and related revenues. The project will build on past development work with consortium partner, the Offshore Wind Accelerator to build a first full-scale prototype. Consortium partner Denley Hydraulics' role is to design and supply the hydraulic system required to operate the pivoting deck. Post-project, the prototype will be trialled by Offshore Wind Accelerator partners before going into service and more PDVs will be built.</p> <p>The project was built on past development work with consortium partner, the Offshore Wind Accelerator to build a first full-scale prototype. Consortium partner Denley Hydraulics' role is to design and supply the hydraulic system required to operate the pivoting deck. Post-project, the prototype will be trialled by Offshore Wind Accelerator partners before going into service and more PDVs will be built.</p>
<b>Results</b>	The PDV was a 2011 finalist in the 8 Trust's Offshore Wind Accelerator Access competition.
<b>Website / other contacts</b>	<p><a href="https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/550429/Energy_Catalyst_-_Late_Stage_-_Round_3_-_Competition_Results.pdf">https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/550429/Energy_Catalyst_-_Late_Stage_-_Round_3_-_Competition_Results.pdf</a></p> <p><a href="https://www.rushlightevents.com/wp-content/uploads/2017/06/Innovate-UK-Energy-Catalyst-Round-3-Directory.pdf">https://www.rushlightevents.com/wp-content/uploads/2017/06/Innovate-UK-Energy-Catalyst-Round-3-Directory.pdf</a></p> <p><a href="https://www.youtube.com/watch?v=905x-tlqdS4&amp;feature=youtu.be">https://www.youtube.com/watch?v=905x-tlqdS4&amp;feature=youtu.be</a></p>

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<b>Title</b>	Fast-Electrochemical Process Pilot Unit Project	<b>Logo</b>	Not available
<b>Details</b>			
<b>Organisations (consortium)</b>	Low Sulphur Fuels Ltd		
<b>Duration</b>	1 year - 01/02/2019-31/01/2020	<b>Financial support</b>	Innovate UK Feasibility Studies: £279,607
<b>Description</b>	<p>Low Sulphur Fuels Ltd. small team of British engineers and chemists have developed a new technology that should make significant changes to the way the oil, shipping and energy industries use less energy while at the same time substantially reduce their emissions to the environment.</p> <p>Blue economy sector: Renewable Assimilation of nutrients, solid waste</p> <p>Relevance for the Blue Economy: Cleaner new fuels, that are required to be used by the shipping industry to meet current and future worldwide emission regulations. An additional major potential benefit is the ability to remove chemical effluent from industrial waste water streams, which transforms the water into a chemically clean resource for irrigation/industrial use or clean disposal. This could be a major environmental advantage for the Upstream O&amp;G industry when using 'fracking' tailing ponds, tar sand or heavy oils.</p> <p>The process uses advanced electrochemistry to modify the molecular structure of hydrocarbon-based waste materials (oils, rubbers, plastics) by allowing unwanted contaminants (sulphur, metals, chlorine, etc.) to be extracted by a low cost, near zero emission process.</p>		
<b>Results</b>	<ul style="list-style-type: none"> <li>The outputs are cleaner new fuels (that are required to be used by the shipping industry to meet current and future worldwide emission</li> </ul>		

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	<p>regulations) for agricultural machinery, for energy generation or domestic heating. In the oil industry, scaling up the process could provide a massive cost and environmental saving as an alternative to high cost, high emission, energy consuming processes such as hydro-treating.</p> <ul style="list-style-type: none"> <li>• 'Near zero' emission.</li> </ul>
<b>Website / other contacts</b>	<a href="https://app.dimensions.ai/details/grant/grant.8469637">https://app.dimensions.ai/details/grant/grant.8469637</a>

**Deliverable Task 1 - Alignment with previous national, European and international projects**

<b>Title</b>	Oceanchest - Beyond the Horizon: Investigation and development of an innovative technological approach to the treatment of ballast water in response to a global environmental issue	<b>Logo</b>	Not available
<b>Details</b>			
<b>Organisations (consortium)</b>	Oceanchest Limited, Liverpool John Moores University		
<b>Duration</b>	>1 year - 01/04/2015-30/06/2016	<b>Financial support</b>	Innovate UK GRD Proof of Concept: £65,838
<b>Description</b>	<p>Maritime traffic corresponds to over 90% of all products transported internationally (IMO2008) and the shipping industry was responsible for 95% of UK imports in 2011 (Department for Transport). 2-3 million metric tonnes of ballast water are transferred globally each year (Steichen et al, 2012). The water inside ballast tanks may contain alien species which, once discharged and established into the new environment, may disrupt the balance of the marine ecosystem (OECD, 2011). It is estimated upto 10000 species can be transported in ballast tanks (Carlton, 1999), with 10 billion tonnes of ballast water transported at any moment across the globe.</p> <p>Blue economy sector: Wastewater Management, Assimilation of nutrients, solid waste</p> <p>Relevance for the Blue Economy: Due to the imminent introduction of this legislation, which requires all ships to manage the discharge of ballast water, UK ports and shipping companies will be required to adapt existing fleets (and perhaps ports) in order to provide adequate treatment facilities and comply with the legislation. The United States Coast Guard (USCG) have introduced a</p>		

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	<p>separate policy which succeeds that of the IMO in the specificity of its requirements.</p> <p>Treat ballast water and meet the strictest of the widely adopted legislation</p> <p>International Maritime Organisation (IMO) has implemented the International Convention for the Control and Management of Ships' Ballast Water and Sediment. This will be achieved through a variety of experiments developed with Liverpool John Moores University.</p> <p>Collaboration with other organisations: IMO, LJMU</p>
<b>Results</b>	<p>Oceanchest investigated an innovative application of a technology to treat ballast water and meet the strictest of the 2 most widely adopted legislation, with the aim of reducing the global economic, environmental and social impact of alien species invasion from ballast water.</p>
<b>Website / other contacts</b>	<p><a href="https://gtr.ukri.org/projects?ref=710532">https://gtr.ukri.org/projects?ref=710532</a></p>


From another perspective it is also possible to identify Projects that were materialised into business projects via the incorporation of university spinout companies. Having that in mind, an assessment to the landscape of companies was done, identifying companies in the blue economy area. That was possible through the access to Beahurst platform where we could track UK's spinout companies. To complement our analysis, we have used Crunch Base that allows to identify funds and investments received from these companies.

We have collected 30 companies in different stages of development, whereas from the UK Atlantic Area we could identify spinouts mainly from University of Strathclyde, University of Glasgow, Swansea University Queen's University Belfast, etc.

Different outputs can happen these companies, as some are able to growth and some are exited, but not can be seen as successful cases that translates into creating value for the market.

The following list highlights just some of the examples of spinout companies. Selection of the project might be bias and does not reflect the whole landscape of the UK, as there's always the limitation of the access to information.

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<b>Title</b>	Molendotech Limited [growing company]	<b>Logo</b>	
<b>Details</b>			
<b>Organisations (consortium)</b>	Spinout from University of Plymouth. Frontier IP is a shareholder that supports the commercialisation of IP.		
<b>Duration</b>	3 years – the company was incorporated on the 29/06/2017	<b>Financial support</b>	Frontier IP - Private Equity Round
<b>Description</b>	<p>Molendotech is developing a rapid assay to screen water for faecal contamination and other harmful bacteria. Current tests on the market may take hours or even days to show results because samples need to be sent to a laboratory.</p> <p>Blue economy sector: Habitat protection, restoration</p> <p>Relevance for the Blue Economy: On site tests to screen water for faecal contamination and other harmful bacteria.</p> <p>Molendotech's technology can be used on site and typically produces results in under 15 minutes. Rapid, point-of-use testing to determine water quality enables more informed decision-making about the use of water and significantly improves the ability to identify and track pollution sources. The company is working with Palintest, a subsidiary of FTSE 100 group Halma plc to commercialise the technology.</p> <p>Main difficulties faced: Assure a reliable and real time test</p>		

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<b>Results</b>	2018: Launch of the 1 <sup>st</sup> commercial product with Palintest. The Siren BW is a water testing kit to identify the concentration of faecal bacteria in water in <30 min. <sup>3</sup>
<b>Website / other contacts</b>	<a href="http://www.molendotech.com">www.molendotech.com</a>

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<sup>3</sup> <https://www.londonstockexchange.com/exchange/news/market-news/market-news-detail/FIPP/13640802.html>




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<b>Title</b>	Arvia Technology Limited	<b>Logo</b>	
<b>Details</b>			
<b>Organisations (consortium)</b>	Spinout from University of Manchester		
<b>Duration</b>	3 years – the company was incorporated on the 29/06/2017	<b>Financial support</b>	<p>Cash in the bank: ~ £4.3M</p> <p>2012: Investment Series B (MIT, Parkwalk Advisors, Earth Capital UK) - £3.8M</p> <p>2013: Investment Series C (SI Capital Private Equity, Parkwalk Advisors) - £2.8M</p> <p>2015: Venture Round - £4M</p>
<b>Description</b>	<p>Arvia's Nyex™ water treatment systems are optimised to treat specific organic contaminants in need of removal to comply with stringent discharge regulations.</p> <p>Blue economy sector: Assimilation of nutrients, solid waste</p> <p>Relevance for the Blue Economy: Patented technologies allow wastewater to be reused safely, saving you time and resources.</p> <p>Objectives: To treat specific organic contaminants in need of removal.</p> <p>Implementation methodology: The scientific skill in design and application ensures that each treatment system is effective in achieving all of your tertiary water or wastewater treatment requirements.</p> <p>Collaboration with other organisations: University of Manchester</p>		
<b>Results</b>	<ul style="list-style-type: none"> <li>Removing COD and nicotine from wash water (undisclosed clients)</li> </ul>		

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	<ul style="list-style-type: none"> <li>• Removal of the phenol</li> <li>• Remove pharmaceutical residues from water (DOC2C's consortium; Nersingen City Council)</li> <li>• Removed CPC (Cetylpyridinium Chloride)</li> <li>• Removal of colour and COD from Tea Wash Water (client not disclosed)</li> <li>• Removal of Triton X-100 from Pharmaceutical Wastewater</li> <li>• Remove contaminants commonly found in wastewater from the Oil and Gas industry, including BTEX and PAHs</li> </ul>
<b>Website / other contacts</b>	<a href="https://www.arviatechnology.com/">https://www.arviatechnology.com/</a>


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<b>Title</b>	Carbon8 Systems [growing company]	<b>Logo</b>	
<b>Details</b>			
<b>Organisations (consortium)</b>	Spinout from University of Greenwich		
<b>Duration</b>	3 years - Incorporated on the 29/06/2017	<b>Financial support</b>	<ul style="list-style-type: none"> <li>- Cash in the bank ~ £8.6K</li> <li>- 2019: H2020 SME Initiative Phase 1 - €50K</li> <li>- 2019: Innovate UK - £311,502 project through the Open Award Scheme, in collaboration with Wright's Engineering and Rapid Innovation Group</li> </ul>
<b>Description</b>	<p>Using carbon dioxide to give waste value by using Accelerated Carbonation Technology (ACT), a treatment for industrial wastes and contaminated soils. The patented products are carbon-negative materials for the construction industry.</p> <p>Blue economy sector: Carbon sequestration (Blue Carbon)</p> <p>Relevance for the Blue Economy: Vision is to develop a global portfolio of waste treatment plants that make a significant contribution to preserving the environment through the permanent capture of waste CO<sub>2</sub>, while protecting natural resources and promoting the circular economy.</p> <p>Delivering a commercially-proven carbon dioxide transformation technology, providing environmentally sustainable solutions for industry's waste problems.</p>		


### Deliverable Task 1 - Alignment with previous national, European and international projects

	<p>Implementation methodology: Built on more than 20 years of award-winning research, ACT has helped make us a world leader in the permanent capture of carbon dioxide, via a commercial process.</p> <p>Collaboration with other organisations: University of Greenwich</p>
<b>Results</b>	<p>2018: Completes 3-month demonstration project at CRH (leading global diversified building materials) in Canada. Project was part funded by the OCE 2030 Solutions Challenge.</p>
<b>Website / other contacts</b>	<p><a href="http://c8s.co.uk/">http://c8s.co.uk/</a></p>

**Deliverable Task 1 - Alignment with previous national, European and international projects**

<b>Title</b>	Adus Deep Ocean Limited [exited company]	<b>Logo</b>	
<b>Details</b>			
<b>Organisations (consortium)</b>	University of Glasgow		
<b>Duration</b>	More than 11 years. Incorporated on the 4/04/2008	<b>Financial support</b>	Cash in the bank ~ £1.7K
<b>Description</b>	<p>ADUS is a high-resolution multibeam sonar surveying and visualisation.</p> <p>Blue economy sector: Ocean monitoring and surveillance</p> <p>Relevance for the Blue Economy: Survey and visualisation of the ocean</p> <p>The core of ADUS work has been collecting and visualising data on shipwrecks that are an environmental hazard because they contain oil, explosives and nuclear material, or because they are a danger to navigation.</p> <p>Collaboration with other organisations: ADUS clients include Government Ministries, Departments and Agencies, major salvage companies and heritage agencies.</p>		
<b>Results</b>	<ul style="list-style-type: none"> <li>2013: DeepOcean acquired a 50% interest in ADUS to form ADUS DeepOcean Ltd (\$458.8M annual revenue).</li> <li>2017: Completion of ground breaking 3D laser survey offshore Ghana.</li> </ul>		
<b>Website / other contacts</b>	<a href="https://deepoceangroup.com/tag/adus/">https://deepoceangroup.com/tag/adus/</a>		

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<b>Title</b>	SALT - Subsea Asset Location Technologies Limited [dead company]	<b>Logo</b>	
<b>Details</b>			
<b>Organisations (consortium)</b>	Spin-out originally from Defence Science and Technology Laboratory (DSTL)		
<b>Duration</b>	12 years – the company incorporated on the 23/11/2007 and closed in 2019	<b>Financial support</b>	<ul style="list-style-type: none"> <li>- Cash in the bank: ~ £30K</li> <li>- Grant €50K - EASME - EU Executive Agency for SMEs: Subsea Asset Location Technologies</li> </ul>
<b>Description</b>	<p>The company commercialised SonarBell® a passive, cost effective sonar reflector which works in conjunction with sonar to provide a clear echo return capable of guiding to the required target.</p> <p>Blue economy sector: Ocean monitoring and surveillance</p> <p>Relevance for the Blue Economy: underwater scanners</p> <p>As a passive device SonarBell® delivers a solution for applications where alternative technologies such as active transponders have previously been considered too expensive to justify i.e. transponders, or too limited in terms of their functionality i.e. corner reflectors.</p>		


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<b>Results</b>	A fraud has been announced as they sold £800,000 in equipment, like underwater scanners that were 'not fit for purpose' to the Ministry of Defence. <sup>4</sup>
<b>Website / other contacts</b>	Not available

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<sup>4</sup> <https://www.dailymail.co.uk/news/article-7732617/Company-boss-56-fleeced-MoD-800-000-fraud.html>

**Deliverable Task 1 - Alignment with previous national, European and international projects**

Title	Cella Energy Limited [exited company]		Logo	
Details				
Organisations (consortium)	Spinout from the UK Government’s Science and Technology Facility Council based at the Rutherford Appleton Laboratory, Oxford			
Duration	8 years - the company was Incorporated on the 01/2011	Financial support	<ul style="list-style-type: none"><li>- Cash in the bank ~ £76.5K</li><li>- Innovate UK 2013 - £350K</li><li>- Innovate UK 2013 - £598K</li><li>- Debt Financing 2013 - \$1.2M</li><li>- Investment Series A (STFC Innovation Ltd, Logo of Thomas Swan &amp; Co Thomas Swan &amp; Co) – undisclosed amount</li><li>- Annual Revenue - \$8.4M estimated</li></ul>	
Description	<p>Developed a hydrogen storage material capable of releasing large quantities of hydrogen when heated to temperatures above 100°C.</p> <p>Blue economy sector: Other</p> <p>Relevance for the Blue Economy: Alternative energy</p> <p>Objectives: It can be produced at scale and at low cost in volume production.</p> <p>Implementation methodology: The material makes the storage and transportation of hydrogen at room temperature and pressure possible and safe.</p> <p>Collaboration with other organisations: Rutherford Appleton Laboratory, Oxford</p>			



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	Main difficulties faced: Exit of the company due to lack of funds - No-return on the investment
<b>Results</b>	<ul style="list-style-type: none"> <li>• 2011: Cella Energy says its hydrogen microbeads could fuel your car, cost \$1.50 per gallon / 19p per litre</li> <li>• The business had reached the point of developing two demonstration power supplies, one for an unmanned aerial vehicle and the other for automotive or aerospace applications.</li> <li>• 30/10/2019: Exit - due to funding issues, the company has had to cease trading</li> </ul>
<b>Website / other contacts</b>	<a href="https://www.climate-kic.org/start-ups/cella-energy/">https://www.climate-kic.org/start-ups/cella-energy/</a>

## 7. The Knowledge and technology transfer – European Projects

### 7.1 Knowledge and Technology Transfer background


According to European Commission report on Open Innovation and Knowledge Transfer (KT) in EU evidence suggests there is still a gap on KT. There are significant differences between European countries, reflected also in the professionalism of their Knowledge Transfer Office (KTO) functions, such as in their performance, output and impact.

The Competence Centre on Technology Transfer (CC TT) was created in 2018 by the European Commission aiming to become a recognised reference point for expertise on technology transfer for the European Commission and the institutions of the Union. The CC TT provides services in three interconnected domains, such as Technology Transfer Capacity Building, Technology Transfer Financing and Innovation Ecosystems Design.

This operational support services are intended to support a broader range of stakeholders including member states and individual institutions facing technology transfer related challenges and issues. In addition, the CC TT also aims to deepen competences, expertise and knowledge in technology transfer through research and the structured aggregation of results and best practices generated by other DGs and EU programmes (e.g. H2020, INTERREG, POCTEP, etc.).

## Deliverable Task 1 - Alignment with previous national, European and international projects


### 7.2 International projects focused on the promotion of knowledge and technology transfer within the Blue Economy

<b>Title</b>	COLUMBUS - Monitoring, Managing and Transferring Marine and Maritime Knowledge for Sustainable Blue Growth	<b>Logo</b>	
<b>Details</b>			
<b>Organisations (consortium)</b>	<p>BIM - Bord Iascaigh Mhara; AquaTT; EurOcean - The European Centre for Information on Marine Science and Technology; DTU Aqua - National Institute of Aquatic Resources; Project Management Jülich; MSE – Marine Southeast; Aquark; SMARTBAY – SmartBay Ireland; Plocan - Oceanic Platform of the Canary Islands; Innovatec - Sociedad para el Fomento de la Innovación Tecnológica; VLiZ - The Flanders Marine Institute; CEFAS - Centre for Environment, Fisheries and Aquaculture Science; EuroGOOS - European Global Ocean Observing System; CETMAR – Centro Tecnológico del Mar; Aquatera – Environmental services and products; Seascope consultants - Seascope consult Ltd; ECMAR – European Council for Maritime Applied R&amp;D; EAS – European Aquaculture Society; NERC-NOC - the Natural Environment Research Council - National Oceanography Centre; MDCE - Maritime Development Center of Europe; Nausicaa - Société d'Exploitation du Centre National de la Mer (National Sea Centre); NTNU - Norwegian University of Science and Technology; UEFISCDI - Executive Agency for Higher Education, Research, Development and Innovation Funding; CMT - Center of Maritime Technologies; ICES - International Council for the Exploration of the Sea</p>		

**Deliverable Task 1 - Alignment with previous national, European and international projects**

<b>Duration</b>	3 years – 1 March 2015 – 28 February 2018	<b>Financial support</b>	H2020-EU.3.2.  Overall budget - € 3 997 488  EU contribution - € 3 997 488
<b>Description</b>	The COLUMBUS project intends to capitalise on the EC's significant research by ensuring accessibility and uptake of research Knowledge Outputs by end-users (policy, industry, science and wider society). COLUMBUS will ensure measurable value creation from research investments contributing to sustainable Blue Growth within the timeframe of the project.		
<b>Results</b>	COLUMBUS Project has produced an extensive report with stories of marine and maritime knowledge transfer activities in several competence nodes of the Bioeconomy sector: Aquaculture, Fisheries, Marine Biological Resources, Marine Environment and Futures, Marine Governance and Management, Marine Monitoring and observation, Marine Physical Resources, Marine Transport and Logistics. It has also produced Good practice manuals: Use and sharing of marine observations and data by industry: Good practice guide and Maritime Sensor Technologies for the European Market: Research, Development and Implementation: Good practice guide among other deliverables.		
<b>Website / other contacts</b>	<a href="http://www.columbusproject.eu/">http://www.columbusproject.eu/</a>		


**Deliverable Task 1 - Alignment with previous national, European and international projects**

<b>Title</b>	JERICO-NEXT	<b>Logo</b>	
<b>Details</b>			
<b>Organisations (consortium)</b>	(Coordinator) IFREMER - French Research Institute for Exploitation of the Sea - France		
<b>Duration</b>	4 years (September 2015 – August 2019)	<b>Financial support</b>	H2020 Programme € 9.99m
<b>Description</b>	<p>JERICO-NEXT emphasizes that the complexity of the coastal ocean cannot be well understood if interconnection between physics, biogeochemistry and biology is not guaranteed. Their vision is to improve and innovate the cooperation in coastal observatories in Europe by implementing the coastal part of a European Ocean Observing System, to cooperate with other European initiatives as ESFRI, Integrated Infrastructures, OCEAN OF TOMORROW sensors innovation project, the emerging European biological network (EMBRC) and EMODnet to contribute to provide services to the research community and the society.</p> <p>Objectives: 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.</p>		

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	<p>Implementation methodology</p> <p>JERICO-NEXT concentrated the efforts on 3 coordinated activities. The work flow were organized in 8 work packages plus one dedicated to the coordination. Support Actions to the infrastructure are distributed for Virtual Access and for Trans National Access.</p> <p>Collaboration with other organisations: 34 expert partners from 15 countries.</p>
<b>Results</b>	<ul style="list-style-type: none"> <li>• Tender Watch Service;</li> <li>• JERICO-RI catalogue;</li> <li>• Scientific strategy;</li> <li>• Report on the JERICO roadmap for the future;</li> <li>• Rules and procedure for TNA;</li> <li>• 2 Summer schools;</li> <li>• 2 Recommendation Reports on improved common procedures for HFR QC analysis.</li> </ul>
<b>Website / other contacts</b>	<p><a href="http://www.jerico-ri.eu/">http://www.jerico-ri.eu/</a></p>

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<b>Title</b>	SID Adapt!	<b>Logo</b>	
<b>Details</b>			
<b>Organisations (consortium)</b>	100+ in the consortium – Ireland, Belgium, France, Germany, Luxembourg, Netherlands & UK. Consortium was essential other projects aimed at knowledge transfer in Climate change: ALFA, AMICE, C-Change, FRC, ForeSTClim, Future Cities, IMCORE, WAVE		
<b>Duration</b>	2007-2013	<b>Financial support</b>	ERDF Fund €879,525
<b>Description</b>	<p>SIC adapt! is a Strategic Initiative Cluster (SIC) of the INTERREG IV B North West Europe (NWE) Programme dealing with adaptation to the impacts of climate change. Eight approved transnational projects originating from seven Member States of the NWE Programme with around 100 partner organisations are involved joining public authorities from all levels, scientific institutions, non-profit and private organisations. In addition to the aims of each project, the Cluster will:</p> <ul style="list-style-type: none"> <li>• illustrate how existing management instruments can be tailored to facilitate adaptation across a range of sectors and locations,</li> <li>• foster implementation of adaptation measures by showcasing widely tested, effective good practice examples throughout NWE and beyond,</li> <li>• encourage the development of policy frameworks that will support local, regional and national adaptation initiatives across NWE,</li> <li>• strengthen the impact of each project, especially at higher policy levels.</li> </ul> <p>The Cluster looks for sustainable, cost-efficient, adaptation strategies and solutions in four action fields:</p> <ul style="list-style-type: none"> <li>• Built environment (urban and regional)</li> <li>• Water environment (rivers, urban water management, coastal / marine)</li> </ul>		

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	<ul style="list-style-type: none"> <li>• Natural environment (forest / nature / agriculture)</li> <li>• Social environment (society / behaviour change).</li> </ul> <p>The development of knowledge sharing networks is paramount to engage with the stakeholders of the Triple Helix to collaboratively engage with one another on emerging and potential technologies and policies to map and to deal with the increasing issues in relation to Climate Change within the Blue Economy.</p> <p>The concerted actions of the cluster will result in extensively tested assessment tools and good-practice adaptation measures that can be easily transferred throughout NWE and other European regions. Given the benefits of having access to the knowledge of around 100 clustered organisations it is anticipated that this transnational exchange will last beyond the formal establishment of the cluster. 100 clustered organisations.</p>
<b>Results</b>	<p>Policy recommendations in terms of FUGIT:</p> <p>F - Flexibility in planning and design of infrastructure</p> <p>U - Understanding through improved communication</p> <p>G - Galvanise actions across all sectors</p> <p>I - Integrated monitoring and management plans</p> <p>T - Tools better support decision making</p> <p>However, at June 2018, none of the projects approved under the current programming period seems to directly address adaptation-related challenges.</p>
<b>Website / other contacts</b>	<p><a href="http://sic-adapt.eu/">http://sic-adapt.eu/</a></p>




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<b>Title</b>	ENTROPI - Creating infrastructure for ocean sustainability	<b>Logo</b>	
<b>Details</b>			
<b>Organisations (consortium)</b>	Marine South East; PoleMer Bretagne Atlantique, Forum Oceano, IMERC, PLOCAN		
<b>Duration</b>	2 years April 2017 – April 2019	<b>Financial support</b>	EASME/EMFF/2016/1.2.1.3/03/SI2.751867 Co-funded by Innovate UK
<b>Description</b>	<p>The ENTROPI Project will address the challenge of marine activities moving further offshore by exploring:</p> <ol style="list-style-type: none"> <li>1. How integration of multiple uses on a single platform could bring economies of scale;</li> <li>2. How innovation in key cost centres could make such platforms commercially viable</li> </ol> <p>The capabilities to be extended by ENTROPI will enable expansion of aquaculture capacity and renewable energy capacity; and it may also become a platform for development of offshore infrastructure for port trans-shipment, seabed mining and maritime security.</p> <p>The need for expansion of capacity in both renewable energy and in aquaculture production has been highlighted in a very wide range of policy statements and analyses, at UN/OECD, European and national levels. Security of supply, cost-effectiveness and long-term resource sustainability are crucial strategic goals. ENTROPI tackles these goals very directly: focusing investment on capabilities that could improve cost-effectiveness of enabling value chains so that environmentally sustainable infrastructure (eg marine renewable energy and offshore aquaculture) can be successfully deployed.</p>		

**Deliverable Task 1 - Alignment with previous national, European and international projects**

	<p>The Atlantic sea-basin is the prime sea-basin in which to locate ENTROPI because it can support significant marine energy and aquaculture sectors, as well as extensive port activities. Relevant facilities and capabilities exist in great strength within the Atlantic sea-basin maritime regions. For this reason, the ENTROPI consortium comprises organisations that play leading roles in marine innovation along Europe's Atlantic seaboard.</p>
<b>Results</b>	<ul style="list-style-type: none"> <li>• 3 areas of innovation that could significantly reduce the development costs of Multi-use platforms: (1) Anchoring and Mooring Solutions (2) Security and Surveillance Applications (3) A concept platform supporting renewable energy devices and aquaculture facilities. Road-Maps for each area were produced, to be consulted by businesses, investors, developers and users to understand the key actions, benefits and milestones for each scenario.</li> <li>• identified a consortium of international companies and expert partners that have the competence to contribute towards the deployment of all three scenarios;</li> <li>• created an online 'Interest Group' regarding multi-use offshore platforms.</li> </ul>
<b>Website / other contacts</b>	<p><a href="https://www.offshoreplatforms.eu/">https://www.offshoreplatforms.eu/</a></p>


## Deliverable Task 1 - Alignment with previous national, European and international projects

<b>Title</b>	MarineTT	<b>Logo</b>	
<b>Details</b>			
<b>Organisations (consortium)</b>	AquaTT, EurOcean		
<b>Duration</b>	2.5 years (Feb 2010 – July 2012)	<b>Financial support</b>	<p>Funding Programme: 7th Framework Programme (FP7)</p> <p>Sub-Programme: Theme 6: Environment (including Climate Change)</p> <p>Funding scheme: Coordination and Support Action</p> <p>Total budget: €871,336</p>
<b>Description</b>	<p>The challenge of MarineTT was to unlock the vast amounts of potentially valuable knowledge which has been generated by FP6 and FP7 funded marine research projects. The MarineTT project created a functional Knowledge Management and Knowledge Transfer tool that when implemented by researchers can be used to ensure increased value creation from research. It also identified barriers between the knowledge generators and the knowledge users and potential ways to overcome these barriers.</p> <p>Objectives:</p> <ul style="list-style-type: none"> <li>• Gain a more comprehensive overview of the knowledge generated by EU funded marine research and make it more accessible to end-users</li> <li>• Review research outputs and identify Knowledge Outputs with the potential to impact end-users</li> </ul>		

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	<ul style="list-style-type: none"> <li>• To pilot the innovative MarineTT Knowledge Management and Transfer evaluation mechanism to identify the research outcomes with the most potential for exploitation</li> <li>• To develop tailor-made knowledge transfer strategies to ensure uptake and impact of knowledge for end-users</li> </ul> <p>The MarineTT Knowledge Analysis Methodology is a conceptual approach that does not rely on the publication of research project results and deliverables but instead focuses on the identification of individual Knowledge Outputs (or key learning from research). The Methodology is comprised of three distinct steps: (1) Collect &amp; Understand: relevant projects were identified and Knowledge Outputs captured during the dedicated online MarineTT survey; (2) Analyse &amp; Consult: Internal Validation of the Knowledge Outputs followed by external expert validation and review; (3) Transfer &amp; Connect: Development of tailor-made transfer strategies for specific Knowledge Outputs to identified end-users.</p>
<b>Results</b>	<ul style="list-style-type: none"> <li>• Developed and trialled an innovation Knowledge Management concept which can be used to process Knowledge Outputs resulting in more accessible knowledge for wider exploitation.</li> <li>• Created a new approach based on targeted Knowledge Transfer which identifies the end-users of the knowledge and develops transfer plans based on their preferences and capacities.</li> <li>• Increased access to marine research knowledge through the refinement and improvement of the EurOcean European Marine Research Funded Projects infobase which now provides information on knowledge generated by EU funded marine research projects.</li> </ul>
<b>Website / other contacts</b>	<a href="https://www.marinett.eu/">https://www.marinett.eu/</a>


**Deliverable Task 1 - Alignment with previous national, European and international projects**

Title	AANChOR- All AtlaNtic Cooperation for Ocean Research and innovation		Logo	 <div>BUILDING AN ALL ATLANTIC OCEAN COMMUNITY Implementing the Belém Statement</div>
Details				
Organisations (consortium)	Fundacao para a Ciencia e a Tecnologia (PT), Instituto Português do Mar e da Atmosfera IP (PT), Sociedade Portuguesa de Inovação (PT), Ciencia Viva-Agencia Nacional para a Cultura Cientifica e Tecnologica (PT), Fundacao Eurocean (PT), Joint Programming Initiative on Healthy and Productive Seas and Oceans (BE), Consorcio para el Diseno, Construcción, Equipamiento y Explotacion de la Plataforma Oceanica de Canarias (ES), Institut Francais de Recherche pour l'exploitation de la Mer (FR), Konsortium Deutsche Meeresforschung E.V. (DE), Department of Science and Technology (ZA), National Research Foundation (ZA), Council for Scientific and Industrial Research (ZA), Ministerio da Ciencia e Tecnologia (BR), Conselho Nacional de Desenvolvimento Cientifico E Tecnológico (BR), Conselho Nacional das Fundacoes de Estaduais de Amparo a Pesquisa (BR), Ministerio de Ciencia, Tecnología e Innovación Productiva Ar, Universidade de Cabo Verde CV			
Duration	2018-2022	Financial support	European Commission, H2020 (EUR 3.995.892,50)	
Description	The main ambition of AANChOR is to promote the implementation of the South Atlantic Research and Innovation Flagship initiative and the Belém Statement (BS), signed by the EU, Brazil and South Africa in 2017, to upscale research and innovation cooperation within the Atlantic basin, from Antarctica to the Arctic. AANChOR will pursue this ambition by providing the EC and the BS Implementation Committee (to be established by signatories of the Statement) with a framework to identify and contribute to the implementation of concrete long-term collaborative activities, reinforcing international cooperation between Europe and			

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	<p>tropical and South Atlantic countries and connecting with the challenges and research needs of the North Atlantic Ocean. AANCHOR will be responsible for launching a multi-stakeholder platform to identify collaborative activities, building on national and international ongoing initiatives such as the All Atlantic Ocean Research Alliance and addressing activities aimed at reinforcing capacity building, promoting academia-industry knowledge transfer for an enhanced ocean innovation, developing common standards, enhancing citizen awareness and ocean literacy and converging and aligning R&amp;I infrastructure initiatives.</p>
<b>Results</b>	<ul style="list-style-type: none"> <li>• Identifying concrete joint actions to support the implementation of the EU-Brazil-South Africa Belém Statement through an empowerment of the international cooperation framework between South Atlantic stakeholders.</li> <li>• Contributing to the implementation of the selected joint actions (from now on called “joint pilot actions” or “pilot actions”) by: (i) Providing seed money (also called “seed funds”) for the first development stages of the selected joint pilot actions that require it and (ii) developing draft implementation plans for the selected joint pilot actions, including the support to the identification of the most appropriate existing funding mechanisms and tools for further development of the selected joint actions.</li> <li>• Defining long term measures for sustainability of the cooperation framework beyond the lifetime of the CSA, including options for the sustainability of the stakeholder platform, for the monitoring and post evaluation of the joint pilot actions and for supporting future cooperation in the Atlantic based on the joint actions proposed by the stakeholder platforms.</li> </ul>
<b>Website / other contacts</b>	<p><a href="https://allatlanticocean.org/">https://allatlanticocean.org/</a></p>

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<b>Title</b>	Common Sense: Cost-effective sensors, interoperable with international existing ocean observing systems, to meet EU policies requirements	<b>Logo</b>	
<b>Details</b>			
<b>Organisations (consortium)</b>	15 partners from seven different countries (the COMMON SENSE consortium comprises six SMEs, five research development institutes, three universities and one foundation)		
<b>Duration</b>	40 months (Nov 2013 - Feb 2017)	<b>Financial support</b>	FP7 Environment, Ocean 2013.2 Total Budget: €6,074,497 EC Contribution: €4,664,072
<b>Description</b>	The COMMON SENSE project will contribute to supporting the implementation of the Marine Strategy Framework Directive (MSFD), and other EU policies such as the Common Fisheries Policy and the Maritime Integrated Policy, by providing new sensors that are robust, easy-to-use, multi-platform compatible, cost-effective, and multi-functional. These sensors will be used to make different reliable in-situ measurements of key parameters relating to Good Environmental Status (GES) of marine waters by means of methodological standards. The project will focus on increasing availability of standardised data on eutrophication, marine litter, contaminants, underwater noise and other parameters (e.g. temperature, pressure, pH and pCO <sub>2</sub> ) according to the MSFD descriptors.		
<b>Results</b>	Several different resources are available to stakeholders, which will allow them to understand exactly what the knowledge is, and how it could be applicable to them. From an industrial point of view, sensor profiles were developed as technical briefs, outlining the technical specifications and highlights of each		

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	<p>sensor. These are available to download from the COMMON SENSE website's media section. Also, the project carried out a feasibility analysis and have outlined manufacturing procedures for each sensor, providing in-depth information on how the sensors can be reproduced and brought to market. The COMMON SENSE outreach in general was enthusiastically taken on board by all partners from an early stage, in recognition of the need to raise awareness of progress and results of the project on an ongoing basis. To this end, regular factsheets were developed, published and widely disseminated. As well as an introductory factsheet developed at the start of the project to introduce stakeholders to the COMMON SENSE project, its objectives, methodology and expected impacts, three other factsheets provided information on important aspects of the project, such as: how COMMON SENSE sensors will contribute to improving marine monitoring and marine data management including an infographic that shows the project development timeline alongside a timeline for MSFD implementation; introductory detail on each of the innovative sensors under development by COMMON SENSE including the description of how the sensors could work together on one platform through the smart sensor unit and common sensor platform whose goal was to collect data from multiple sensors; detail on the deployment and testing activities carried out by partners to ensure developed sensors were fit for purpose and to identify areas which required further modification. Significant effort was expended in these activities, with all sensors being tested a multiple of times at different locations and using different platforms.</p> <p>A project video was also created, which quickly explains the project and its relevance to marine monitoring policies across Europe, using a mixture of real footage and animations.</p>
<b>Website / other contacts</b>	<a href="https://www.commonsenseproject.eu/media/final-brochure">https://www.commonsenseproject.eu/media/final-brochure</a>




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<b>Title</b>	BlueMed – Research & Innovation for blue jobs and growth in the Mediterranean Area	<b>Logo</b>	
<b>Details</b>			
<b>Organisations (consortium)</b>	Idryma Erevnas Kai Kainotomias; Ministerio De Economia, Industria Y Competitividad; Instituto Espanol De Oceanografia; Centre National De La Recherche Scientifique Cnrs; Institut Francais De Recherche Pour L'exploitation De La Mer; Hellenic Centre For Marine Research; Institut Za Oceanografiju I Ribarstvo; <i>Ministry For Education And Employment</i> ; Direcao-Geral De Politica Do Mar; Nacionalni Institut Za Biologijo; Office Of The Prime Minister		
<b>Duration</b>	4 years – 1 October 2016- 30 September 2020	<b>Financial support</b>	H2020-EU.3.2.5. Overall budget: € 2 998 000 EU contribution - € 2 998 000
<b>Description</b>	<p>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.</p> <p>Although focused on the Mediterranean Basin, good practices and methodologies may be retrieved from BLUEMED as Background for EMPORIA4KT since, BlueMed aimed to set the scene for the effective</p>		

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	<p>coordination of marine and maritime research and innovation activities in the long term, with 4 dedicated working Platforms on knowledge, economy, technology, and as well as develop 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.</p>
<b>Results</b>	<p>BlueMed community participated in several documents useful to establish state of the art: Rome Declaration 2014, Blue Economy Declaration 2015, World Ocean Council – Maritime Clusters and Sustainable Development 2018, OECD – Rethinking Innovation for a Sustainable Ocean Economy, 2019; OECD – The EU Blue Economy Report 2019; EuroMarine – Strategic Agenda on Enhancement of Human Resources to support Blue Growth Sectors, 2019. BlueMed project produced:</p> <ul style="list-style-type: none"> <li>• BlueMed SRIA</li> <li>• The BlueMed Italian White Paper: an overview of relevance, obstacles and proposals of the key sectors for a Blue Growth, 2019.</li> </ul>
<b>Website / other contacts</b>	<p><a href="http://www.blued-med-initiative.eu/">http://www.blued-med-initiative.eu/</a></p>


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<b>Title</b>	MARTERA - Maritime and Marine Technologies for a New ERA	<b>Logo</b>	
<b>Details</b>			
<b>Organisations (consortium)</b>	Germany - Forschungszentrum Jülich GmbH - Projektträger Jülich (JÜLICH); Germany - Bundesministerium für Wirtschaft und Energie (BMWi); Argentina - Ministerio de Ciencia, Tecnología e Innovación Productiva (MINCyT); Belarus - National Academy of Sciences of Belarus (NASB); Belgium - Flanders Innovation and Entrepreneurship (VLAIO, for the HERMES Fund); France - Agence Nationale de la Recherche (ANR); France - Ministry for an ecological and solidary transition (MTES); Ireland - Marine Institute (MI); Italy - Ministero dell'Istruzione, dell'Università e della Ricerca (MIUR); Malta - Malta Council for Science and Technology (MCST); Netherlands - Nederlandse Organisatie voor Wetenschappelijk Onderzoek (NWO); Norway - Norges Forskningsrad (RCN); Poland - Narodowe Centrum Badan I Rozwoju (NCBR); Portugal - Fundação para a Ciência e a Tecnologia (FCT); Romania - Unitatea Executiva pentru Finantarea Invatamantului Superior, a Cercetarii, Dezvoltarii si Inovarii (UEFISCDI); Spain - Centro para el Desarrollo Tecnológico Industrial (CDTI); Turkey - Türkiye Bilimsel ve Teknolojik Araştırma Kurumu (TÜBİTAK); South Africa - Department of Science and Technology (DST).		
<b>Duration</b>	5 years – 1 December 2016-30 November 2021	<b>Financial support</b>	H2020-EU.3.2.5.  Overall budget: € 26 002 703  EU contribution: € 8 580 891,99
<b>Description</b>	The overall goal of the proposed Cofund is to strengthen the European Research Area (ERA) in maritime and marine technologies and Blue Growth. The realisation of a European research and innovation agenda needs a broad		

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	<p>and systematic cooperation in all areas of waterborne transport, offshore activity, marine resources, maritime security, biotechnologies, desalination, offshore oil &amp; gas, fisheries, aquaculture etc. covering all relevant maritime and marine sectors and regions for a sustainable development of the maritime sector. Research and innovation activities in these fields cannot be tackled either at national levels alone, or solely by a single sector. Coordinated actions are required for the maritime industry to strengthen Europe's position in this important and complex economic field in a global market. The proposing consortium will organise and co-fund, together with the EU, a joint call for trans-national research projects on different thematic areas of Blue Growth. Furthermore, additional joint activities that go beyond this co-funded call are planned, in order to contribute to the national priorities as well as to the Strategic Research Agenda of JPI Oceans and WATERBORNE.</p>
<b>Results</b>	<ul style="list-style-type: none"> <li>• Launched 3 calls, having funded 19 projects technology based.</li> <li>• Liaison with the initiatives JPI Oceans (<a href="http://www.jpi-oceans.eu/strategy">http://www.jpi-oceans.eu/strategy</a>) and WATERBOURNE (<a href="https://www.waterborne.eu/">https://www.waterborne.eu/</a>)</li> </ul>
<b>Website / other contacts</b>	<p><a href="https://www.martera.eu/start">https://www.martera.eu/start</a></p>


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<b>Title</b>	(PRIMROSE)- Predicting the Impact of Regional Scale events on the Aquaculture Sector		<b>Logo</b>	
<b>Details</b>				
<b>Organisations (consortium)</b>	Agencia de Gestión Agraria y Pesquera de Andalucía-AGAPA (ESP), Fundación AZTI Tecnalia (ESP), Scottish Association for Marine Science (UK), Instituto Superior Técnico / Universidade de Lisboa (PT), Instituto Español de Oceanografía (ES), Seafood Shetland (UK), Indigo RockMarine Research Station (IRL), IFREMER, (FR), Marine Institute (IE), Plymouth Marine Laboratory (UK)			
<b>Duration</b>	3 years: 13/11/2017- 12/12/2020	<b>Financial support</b>	Interreg Atlantic Area  Total budget: 2.729.348,00 €  European Union financial support – FEDER (ERDF):2.047.011,00 €	
<b>Description</b>	<p>The main objective of Project PRIMROSE is to provide a reliable standard, automated system for reporting and forecasting HABs and microbial events that impact aquaculture operations in European coastal waters. We will build on existing HAB early warning systems developed by our previous successful forecasting system during its predecessor, Project ASIMUTH (reported in a special edition of Harmful Algae, 2016). New features of PRIMROSE will include; an expanded system for new fish- and shellfish-producing areas; improved HAB forecasts with greater resolution; a wider suite of parameters; an evaluation of the potential for mitigation; new index based risk assessments; and a valuable information service for policy makers, risk regulators, food safety authorities and the aquaculture sector, from Shetland to Canary Islands. The new forecast will include microbial risk (eg. E. coli, Norovirus, Vibrio) and environmental/ climate impacts, in addition to improved HAB predictions.</p> <p>PRIMROSE will benefit from improved spatial resolution, utilising new generation Sentinel data products for the main aquaculture production areas in France, Ireland, Portugal, Spain and the UK. Improved ASIMUTH-developed</p>			

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	<p>methodologies for producing HABs forecasts will result from operational oceanographic forecasts, downscaled regional hydrodynamic models, novel satellite data, phytoplankton/ biotoxin monitoring data and expert evaluation. PRIMROSE will upgrade the current HAB forecast service to the regional scale; providing mesoscale trans-national HAB and microbial risk information, risk assessments and knowledge exchange with the international user community. We intend to maintain close involvement/co-development with industry partners throughout the project to ensure maximum impact of the project outputs. The main objective of PRIMROSE is to provide a reliable standard, automated system for reporting and forecasting HABs and microbial events that impact aquaculture operations in European coastal (AA) waters.</p>
<b>Results</b>	<p>PRIMROSE will deliver improved forecasts of HABs, microbial risks and climate impacts in aquaculture locations the length of Europe's Atlantic Arc from the Shetland Islands in the north to the Canary Islands in the South.</p> <p>The project will use a combination of technologies including the OLCI system flying on board the new Sentinel 3 satellites that provide increased remote sensing resolution for aquaculture production areas in Ireland, Scotland England, France, Spain and Portugal.</p> <p>The transnational cooperation within PRIMROSE will allow best practises and methodologies to be shared among the partners, with the development of a common web-based gateway for risk assessment in the region including an easily understood "traffic light" risk index for industry.</p>
<b>Website / other contacts</b>	<p><a href="https://www.shellfish-safety.eu/">https://www.shellfish-safety.eu/</a></p>

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Title	BLUEHUMAN-Blue biotechnology as a road for innovation on human's health aiming smart growth in Atlantic Area		Logo	
Details				
Organisations (consortium)	Universidade do Minho (PT), Centro Tecnológico del Mar – Fundación CETMAR(ES), Centro Interdisciplinar de Investigação Marinha e Ambiental(PT), Instituto de Investigaciones Marinas - Consejo Superior de Investigaciones Científicas(ES), Université de Bretagne Occidentale(FR), SAS YSLAB (FR), Universidade do Algarve (PT), Universidad de Vigo(ES), Royal College of Surgeons in Ireland (IE), Universidade da Madeira(PT), JELLAGEN PTY LTD (UK), SURGACOLL Technologies Limited (IE), Agrupación Europea de Cooperación Territorial Galicia Norte de Portugal(ES), Axencia Galega de Innovación(ES),Agência Nacional de Inovação(PT), Agencia Estatal de Investigación (MINECO (ES), Faculdade de Ciências da Universidade do Porto (PT)			
Duration	2 years: 01/01/2018-31/12/2020	Financial support	Interreg Atlantic Area  Total budget: 2.523.868,00 €  Financial support FEDER (ERDF):1.892.901,00 €	
Description	The Atlantic Area (continental shelf and islands) is particularly rich in marine resources and despite the richness of these resources, both in quantity and biodiversity. Commercial exploitation is predominantly focused on fishing and by-products. However, their relevance for other commercial fields has already been demonstrated with pilot examples of marine derived cosmetics, pharmaceuticals and medical device products. The BlueHuman project aims to widen the commercial potential of the Atlantic Ocean on Europe by proposing innovative products for the biomedical field. These will be produced based on a sustainable exploitation of marine resources but also valuing the huge amounts of by-products available in the region. To achieve this, the project will seek to expand the commercial and scientific potential, beyond current activities mainly limited			

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	<p>to fishing and maritime transport, opening the avenue of blue biotechnology with new high added-value solutions.</p> <p>BlueHuman will also seek to influence other actors in the region towards the much needed sustainable and smart growth, as identified in the Europe 2020 strategy, with the ultimate objective of increasing highly-skilled jobs and strengthening the economic tissue, including new technology-based SMEs. Blue biotechnology will then be used as a tool for regional smart growth towards harmonization with the EU.</p>
<b>Results</b>	<p>Objective: Strengthening the transfer of innovation results to facilitate the emergence of new products, services and processes</p> <p>Papers: <a href="http://bluehuman.cetmar.org/papers/">http://bluehuman.cetmar.org/papers/</a></p> <p>Posters: <a href="http://bluehuman.cetmar.org/poster-3/">http://bluehuman.cetmar.org/poster-3/</a></p> <p>Books: <a href="http://bluehuman.cetmar.org/books/">http://bluehuman.cetmar.org/books/</a></p>
<b>Website / other contacts</b>	<p><a href="http://bluehuman.cetmar.org/">http://bluehuman.cetmar.org/</a></p> <p><a href="mailto:tiago.silva@dep.uminho.pt">tiago.silva@dep.uminho.pt</a></p>




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<b>Title</b>	SABANA- Sustainable Algae Biorefinery for Agriculture and Aquaculture		<b>Logo</b>	
<b>Details</b>				
<b>Organisations (consortium)</b>	Univ. de Almería (ES), FCC Aqualia SA(ES), GEA Wesrfalia Separator Group GMBH (GE), Karlsruher Institut fuer Technologie (GE), Biorizon Biothec SL(ES), Mikrobiologicky Ustav – AVCR, V.V.I. (CR), Univ. Degli Studi di Milano (IT), Univ. de Las Palmas de Gran Canaria (ES), Szechenyi Isrvan Univ. (HU), CIB-Consorzio Italiano Biogas e Gassuficazione (IT)			
<b>Duration</b>	48 months 2016-12-01- 2020-11-30	<b>Financial support</b>	HORIZON 2020  Total budget: 10.646.705,00 €  Financial support FEDER (ERDF): 8.848.523,75 €	
<b>Description</b>	<p>SABANA aims at developing a large-scale integrated microalgae-based biorefinery for the production ofbiostimulants, biopesticides and feed additives, in addition to biofertilizers and aquafeed, using only marine water and nutrients from wastewaters (sewage, centrate and pig manure). The objective is to achieve a zero-waste process at a demonstration scales up to 5 ha sustainable both environmentally and economically. A Demonstration Centre of this biorefinery will be operated to demonstrate the technology, assess the operating characteristics of the system, evaluate environment impacts and collaborate with potential customers for use.</p> <p>The key advantages of SABANA project are: the sustainability of the process, using marine water and recovering nutrients from wastewaters while minimizing the energy consumption, and the socioeconomic benefits, due to the relevance of the target bioproducts for two major pillars in food production as agriculture and aquaculture. Bioproducts capable of increasing the yield of crops and fish production are highly demanded, whereas recovery of nutrients is a priority issue</p>			

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	in the EU. Instead of considering wastewater as an inevitably useless and problematic residue of our society, SABANA acknowledges its potential as an opportunity for economically relevant sectors.
<b>Results</b>	SABANA project includes: (i) the utilization of microalgae-bacteria consortia and in co-culture with other algae to control grazing species, (ii) the implementation of efficient thin-layer cascade and raceway, (iii) the scale-up of reactors to ensure stable operation, (iv) to use marine water to increase the sustainability of the process; (v) to recover nutrients from wastewaters, (vi) to develop harvesting processes taking into account the remaining water, (vii) to establish processes for mild/energy efficient extraction of bioproducts, (viii) to process residual biomass to produce biofertilizers and aquafeed in zero-waste schemes, (ix) using robust and sustainable technology.
<b>Website / other contacts</b>	<a href="http://eu-sabana.eu/">http://eu-sabana.eu/</a>


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<b>Title</b>	Desal +- Plataforma macaronésica para el incremento de la excelencia en materia de I+D en desalación de agua y el conocimiento del nexo agua desalada-energía. Macaronesian platform for increasing excellence in R&D in water desalination and knowledge of the desalinated water-energy nexus	<b>Logo</b>	
<b>Details</b>			
<b>Organisations (consortium)</b>	Instituto Tecnológico de Canarias, S.A. (ITC) (ES), Agencia Canaria de Investigación, Innovación y Sociedad de la Información (ES), Universidad de Las Palmas de Gran Canaria (ULPGC) (ES), Universidad de La Laguna (ULL)(ES), Plataforma Oceánica de Canarias (PLOCAN)(ES), Fundación Centro Canario del Agua(ES), Consejo Insular de Aguas de Gran Canaria (CIAGC), (ES), Mancomunidad Intermunicipal del Sureste de Gran Canaria (ES), Águas e Resíduos da Madeira, S.A. (PT), Universidad de Nouakchott (MAURITANIA), Agir en Faveur de l'Environnement (Mauritania) Agence de Promotion de L'accès universal aux services (APAUS) (Mauritania), Consejo Insular de Aguas de El Hierro (ES), Empresa Mixta de Aguas de Las Palmas (EMALSA), Soslaires(ES), Águas de Ponta Preta (Cabo Verde)		
<b>Duration</b>	2 years: january2017 – December2019	<b>Financial support</b>	INTERREG MAC  Total budget: 2.578.812,93 €  Financial support FEDER (ERDF): 2.191.990,99 €
<b>Description</b>	Desal+ is a project to create and consolidate a joint R&D&I platform in Macaronesia (Canary Islands, Madeira, Cape Verde and Mauritania) with high capacities and research infrastructure of international excellence in the field of water desalination, knowledge of the desalinated water-energy nexus and the		

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	<p>exclusive use of renewable energies. Without doubt, water desalination in the Cooperation Area is the activity associated with the blue economy that is most directly linked to social and economic stability. DESAL+ proposes to create a joint research platform in the Cooperation Area; to modernize, rationalize, strengthen and make visible the desalination infrastructure associated with R&amp;D; to develop innovative solutions and demonstration projects; and to increase the capacity of researchers and the joint participation in European projects as well as international cooperation.</p>
<b>Results</b>	<p>Specific Objectives: a) To define and execute a joint R&amp;D strategy in desalination within the Cooperation Area in such a way as to articulate actions in terms of the necessary infrastructure and increase research capacities in this sector, b) To increase scientific and innovative performance by jointly carrying out applied research and implementing demonstrative solutions relating to water desalination technologies, emerging processes and the massive use of renewable energies and c) To improve the training and specialization of research personnel by strengthening the exchange, mobility and joint training of new researchers and technicians in the Cooperation Area.</p>
<b>Website / other contacts</b>	<p><a href="https://www.desalinationlab.com/proyectedesal+/es/">https://www.desalinationlab.com/proyectedesal+/es/</a></p>


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<b>Title</b>	ESPOMAR.  R+D+I Cooperation network for a sustainable and cross-border design of fluvial-maritime transport in the Gulf of Cadiz as a risk's prevention instrument and management improvement of natural resources.	<b>Logo</b>	
<b>Details</b>			
<b>Organisations (consortium)</b>	University of Cadiz, University of Huelva, University of Algarve, The Public Agency of Harbours of Andalusia (regional government)		
<b>Duration</b>	4 years: 10/01/2015 to 31/12/2019	<b>Financial support</b>	Interreg Poctep Spain- Portugal  Total budget: 363.049,11 €  European Union financial support – FEDER (ERDF): 272.286,86 €
<b>Description</b>	<p>Establishment of a R&amp;D Cooperation Network focused on sustainable and transnational Maritime-fluvial transport design within Gulf of Cadiz, which helps to improve cross-border connectivity, natural resource management, conservation, protection, promotion and development of the natural and cultural heritage, contributing to the increase of the tourist offer, and therefore to the economic and sustainable growth of the area of coastal maritime action between Cádiz and Faro.</p> <p>Maritime connections could reduce the land distance between Cádiz and Faro by 156 km, and 105 km between Cádiz and Huelva, which could lead to a significant reduction in the emission of polluting gases.</p> <p><b>Activities</b></p> <ul style="list-style-type: none"> <li>• Transport system design</li> <li>• Design of sustainable watercraft</li> </ul>		

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	<ul style="list-style-type: none"> <li>• Environmental impact analysis</li> <li>• Economic analysis and optimization</li> </ul>
<b>Results</b>	<ul style="list-style-type: none"> <li>• Development of a R&amp;D Cooperation Network focused on sustainable and transnational Maritime-fluvial transport design within Gulf of Cadiz.</li> <li>• A sustainable maritime-fluvial system transport.</li> <li>• Innovative design of build shipping according to each transport line requirements designed in a more sustainable by means of green energy resources and a lower erosion coast side impact.</li> <li>• Local and touristic demand analysis.</li> <li>• Viability and economic impact research.</li> <li>• Study of the environmental impact</li> <li>• Capitalization of results</li> </ul>
<b>Website / other contacts</b>	<a href="https://espomar.uca.es/">https://espomar.uca.es/</a>

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Title	AGUAMOD - Development of a water resource management platform during low water periods in the SUDOE region		Logo	
Details				
Organisations (consortium)	CNRS. Centre National de la Recherche Scientifique. Laboratoire ECOLAB (FR), University of Basque Country (ES), The Spanish National Research Council. CSIC (ES), University of Castilla-La Mancha (ES), University Polytechnic of Valencia (ES)  IST - University of Lisboa (PT), INRAE, French national research institute for agriculture, food and environment (FR), University of Cadiz (ES), INIAV. Instituto Nacional de Investigação Agrária e Veterinária (PT)			
Duration	3 years:  01/07-2016  30/06/2019	Financial support	Interreg SUDOE  Total budget: 2.125.392,00 €  European Union financial support – FEDER (ERDF): 1.594.044,00 €	
Description	<p>AGUAMOD is proposing to reconcile the water needs of societies (drinking water, agriculture, industry, cities, leisure etc.) with the ecological needs of rivers. In particular, AGUAMOD is focusing its analyses and methods on periods of low flow and drought that place considerable pressure on this resource and result in tensions around its use. The objective of AGUAMOD is to jointly build a platform for integrated water resource management during low water periods with all stakeholders in water management (managers, economic stakeholders, users and civil society) in south-west Europe (SUDOE).</p> <p>The AGUAMOD platform will combine an evaluation of the watershed’s water needs (drinking water, agriculture, industry, environmental flows etc.) with numerical models that simulate the stocks and flows of water in all parts of the watershed. An economic and social assessment of water resources and an analysis</p>			

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	<p>of the quality of water governance will be conducted across the SUDOE territory. Different climate change scenarios coupled with simulations will be designed to anticipate future water needs from a social and environmental perspective.</p> <p>The aim of the AGUAMOD platform is to promote a comprehensive, shared vision of the resource during low water levels throughout the SUDOE territory. It will provide managers and users with decision-making tools by means of complex scenarios presenting robust and localised information on climate dynamics, hydrology, land and water uses and modes of governance by 2050.</p> <p>The transnational approach is intended to compare issues and territorial contexts as well as the tools developed by the partners involved in order to offer a common innovative tool that is suitable for the entire SUDOE territory.</p>
<b>Results</b>	<ul style="list-style-type: none"> <li>• The definition of common objectives with a view to responding to the European Commission Framework Directive on water resources management;</li> <li>• Management hypothesis based on political, environmental and economic priorities. The latter allowed the development of simulations on the consequences derived from hydrographic demarcation and hydrographic subsystems;</li> <li>• The development of environmental, economic and social indicators for the implementation of the Directive;</li> <li>• Instruments for dissemination of results adapted to the local scale, among which an interactive manual, a game and online training. These instruments not only contribute to support the daily management of water resources but also allow anticipation;</li> <li>• A space for dialogue between scientists and political decision makers at transnational level.</li> </ul>
<b>Website / other contacts</b>	<a href="http://www.aguamod-sudoe.eu/en/#">http://www.aguamod-sudoe.eu/en/#</a>




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Title	OCASO - Southwest Coastal Environmental Observatory		Logo	
Details				
Organisations (consortium)	University of Cádiz (UCA, coordinator), The Spanish Port Authority (PdE), The Spanish Institute of Oceanography (IEO), University of Algarve (UAAlg), The Navy Hydrographic Institute (IH)			
Duration	4 years: 01/01/2015 - 31/12/2019	Financial support	Interreg Poctep Spain- Portugal  Total budget: 1.279.318,32 €  European Union financial support – FEDER (ERDF): 959.488,74 €	
Description	<p>This project is a transboundary initiative aimed to integrate the existing observing and modelling capabilities in order to impel the use of coastal and marine environmental information by local end-users, including administrations. The final goal is to contribute to the sustainable development of the Iberian southwest coastal regions (Alentejo and Algarve in Portugal, and Andalucía in Spain) boosting the blue economy approach. OCASO pretends to serve as a link between the local coastal and marine end-users and the national and European agencies and initiatives developing coastal and marine environmental products and services.</p> <p>Creation of a full structure of cross-border Operational Oceanography that integrates observations with the predictive and analytical capabilities of the existing modelling systems in the Iberian Southwest to provide the end user, in a continuous and early manner, with the pertinent information in the most appropriate way. This structure will provide optimal conditions for a qualitative leap in scientific knowledge of marine processes in the region and will boost the regional blue economy.</p> <p>The OCASO general objective will be a contribution to the achievement of the Specific Objective of the Investment Priority 1A of the POCTEP program defined</p>			

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	<p>as “Improving the scientific excellence of the Cross-Border Cooperation Space through the improvement of the capabilities and resources of R+D+i, as well as support for these activities and lines of research with the potential to be internationally competitive “.</p> <p>The territory that is the object of the OCASO project, the South-Atlantic European space within the Euroregion Andalucía-Algarve-Alentejo, is greatly determined by its status as a maritime territory. This marine condition manifests an outstanding expression in its historical context, its social structure, its economic differentiation and in its natural environment. In this framework, the specific objectives of OCASO are:</p> <ul style="list-style-type: none"> <li>• To develop excellence in the oceanographic research of the south-Atlantic space through the creation of a critical mass in research that guarantees the international scientific competence</li> <li>• Capitalize and transfer to the social and economic agents the set of knowledge, tools and infrastructures related to the marine environment</li> <li>• Actively participate in the sustainable, blue and socially inclusive growth of the regions involved.</li> </ul>
<b>Results</b>	<p>The Observatory as an integrated, sustainable and dynamic platform will benefit the participating institutions as generators of knowledge, the local socioeconomic fabric and administrations that will have decision-making tools and environmental information companies that can develop products and services aimed at end users. Innovation lies in dynamic interaction with users and their active participation in defining the characteristics of the information provided. This "bottom-up" approach gives the Observatory the necessary connecting role between the end user and the European initiatives of Environmental Observation, helping its dissemination and generating added value to its products.</p>
<b>Website / other contacts</b>	<p><a href="https://ocaso.uca.es/what-is-ocaso/project-description/?lang=en">https://ocaso.uca.es/what-is-ocaso/project-description/?lang=en</a></p>

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<b>Title</b>	CABFISHMAN  Conserving Atlantic Biodiversity by Supporting Innovative Small-Scale Fisheries Co-Management	<b>Logo</b>	
<b>Details</b>			
<b>Organisations (consortium)</b>	AZTI Foundation, Univ. of Huelva, CETMAR, IFREMER, Institut Français de Recherche pour l'Exploitation de la Mer, Univ. of St Andrews, IMPA, The Spanish institute of Oceanography, Consejería de Desarrollo Rural y Recursos Naturales, Univ. of Oviedo, Ireland's Seafood Development Agency, Centre for Environment, Fisheries and Aquaculture Science, Univ. of Algarve, Joint Nature Conservation Committee, Basque Country government, Spanish government of Agriculture, Fishery, Feeding and Environment, FLAG, Oceana Foundation, South Western Waters, Advisory Council, Welsh Government, GARUM Foundation. Technology Centre of Fishery, COSTALUZ, Lonja de Isla S.L., Marine Management Organisation, Marine Alliance for Science and Technology, Low Impact Fishers of Europe, Federación de Cofradías de Pescadores del Principado de Asturias, Fishing into the Future, Federación Andaluza de Cofradías de Pescadores		
<b>Duration</b>	3 years 02.03.2019 03.03.2022	<b>Financial support</b>	Interreg Atlantic Area  Total budget: 2 482 052, 84€  European Union financial support – FEDER (ERDF): 1 861 539.63€
<b>Description</b>	The Project supports stakeholder cooperation within SSF's to address shared transnational challenges that enhance (i) the protection of marine resources by improved spatial distribution of SSF activity knowledge to advance towards an ecosystem-based approach to management. This improved mode of environmental management will lead to better management of natural ecosystems shared by SSF and other coastal		

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	<p>activities – including marine protected areas. The project will contribute to specific objectives of the Common Fishery Policy (CFP) and the Marine Spatial Planning Directive (MSP) through: (ii) the conservation of biodiversity by identifying and providing quantitative assessment of the ecosystem services (ES) attached to the SSF species and habitats. (iii) improving the scarce knowledge of how SSF's impact on biodiversity, and, on the ES, and provide an answer to the need for common methodology, learning and management, thereby contributing to meet the needs of the Marine Strategy Framework Directive (MSFD). The project will also support innovation to adapt the SSF's to the introduction of the landing obligation from 2019 onwards (CFP). (iv) Cooperation amongst different types of stakeholders (regional, national, etc.) to propose solutions for the Atlantic based on previous new knowledge and increasing their capacity to develop joint proposals within the Atlantic Strategy Action Plan. (v) the coexistence of SSF activity with marine conservation.</p>
<b>Results</b>	<ul style="list-style-type: none"> <li>• Improvement on the SSF spatial distribution activity data collection methods in the Atlantic Area</li> <li>• Current understanding of the physical and biological effects of SSF fishing activity on the coastal and marine habitats</li> <li>• New knowledge in the Atlantic on impact assessment-based classification of SSF gears and impacted habitats</li> <li>• Improved knowledge on SSF and its ecosystem cultural and natural heritage</li> <li>• Innovative assessment of economic net value of fishing grounds for SSF and the carbon footprint</li> <li>• Recommendations to better advance management of SSF under an ecosystem approach</li> </ul>
<b>Website / other contacts</b>	<p><a href="https://www.azti.es/en/proyectos/cabfishman/">https://www.azti.es/en/proyectos/cabfishman/</a></p>

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Title	AquaVitae		Logo	 AquaVitae
Details				
Organisations (consortium)	Nofima (Norway), Centro Tecnológico del Mar – Fundación CETMAR (Spain), Empresa Brasileira de Pesquisa Agropecuaria- Embrapa (Brazil), Universidade Federal do Rio Grande- FURG (Brazil), Universidade Federal de Santa Catarina (Brazil), Universidade Estadual Paulista Julio de Mesquita Filho (Brazil), DanmarskTekniskeUniversitet (Denmark), Syntesa ASP (Denmark), SPF Ocean Rainforest (Faroe Islands), PF Fiskaaling (Faroe Islands), Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung (Germany), VereinZurForderung des Technologietrasfers an der Hochschule Bremerhaven EV (Germany), Matis OHF (Iceland), Galway-Mayo Institute of Technology (GMIT), University of Namibia (Namibia), Miljostiftelsen Bellona (Norway), NORCE Norwegian Research Centre (Norway), Universitet I Tromsoe – Norges Arktiske Universitet (Norway), Universidade do Porto – CIIMAR (Portugal), Centro de Ciencias do Mar do Algarve (Portugal), Rhodes University (South Africa), Stellenbosch University (South Africa), Biolan Microbiosensores SL (Spain), Agencia Estatal Consejo Superior de Investigaciones Científicas – CSIC (Spain), Universidad de Las Palmas de Gran Canaria (Spain), IVL Svenska Miljoeinstitutet AB (Sweden), Scottish Association for Marine Science LBG (United Kingdom), University of New England (United States), Primar Aquacultura Ltda (Brazil), Scea France Haliotis (France), Cartron Point Shellfish LTD (Ireland), Algaplus Producao e Comercializacao de Algas e Seus Derivados LDA (Portugal), Marifeed PTY LTD (South Africa), Wild Coast Abalone (South Africa), Bohus Havsbruk AB (Sweden).			
Duration	4 years 01.06.2019 31.05.2023	Financial support	H2020  Total budget: € 8 748 035	

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<b>Description</b>	<p>The AquaVitae project is a consortium of 36 partners from Europe and countries bordering the Atlantic Ocean. They are working towards sustainable aquaculture production and the development of new low trophic species in aquaculture value chains, including macroalgae, Integrated Multi-Trophic Aquaculture (IMTA), shellfish, echinoderms and finfish. Research activities will cover the whole aquaculture value chain, from analyzing market potential of new products to the policy framework. Possible impacts on the environment will be monitored, including the development of new sensors. AquaVitae plans to set up an industry and research network with particular attention on social responsibility and community outreach. Expecting to influence industry and society long-term, the project's partners also plan to design good practice standards and provide training programs for specialists and the public, focusing on a circular economy and the zero-waste approach.</p>
<b>Results</b>	<p>One of the main expected results of the project would be the creation of real and meaningful collaborative links between researchers, industry and other aquaculture stakeholders in the Atlantic area.</p> <p>AquaVitae will contribute to the Belém Statement, the joint Declaration on Atlantic Ocean Research and Innovation Cooperation between the European Union, Brazil and South Africa through:</p> <ul style="list-style-type: none"> <li>• Setting up a network for knowledge and research exchange through the Atlantic.</li> <li>• Sustainable use of marine resources with a circular economy approach.</li> <li>• Better monitoring of aquaculture activities through new and emerging technologies.</li> <li>• Contributing to the well-being of aquaculture communities.</li> <li>• Enhancing citizen engagement through training and outreach activities.</li> </ul>

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	<ul style="list-style-type: none"><li>• Setting up students exchanges and industrial apprenticeships.</li></ul>
<b>Website / other contacts</b>	<a href="http://www.aquavitaeproject.eu/">http://www.aquavitaeproject.eu/</a>

## 8. Conclusions

Marine and maritime research plays an important role for understanding the seas and creating technology and management techniques for their sustainable use. However, the results are not always successfully transferred or fully exploited.

The information compiled in this document reveals that the transfer of knowledge and technology has been a concern at national and international level, as well as the development of methodologies that facilitate its promotion and implementation. More specifically, in relation to the participating countries, we can summarize the main conclusions:

- France has excellent fundamental research but is still facing difficulties with the transfer of the research results into industrial applications. This is due to the fact that the culture of knowledge transfer and the promotion of research results in the business world is not really anchored in the French academic culture. In order to change this, many actions and policies have been undertaken to enhance knowledge transfer in the recent years. Since 2010, the French government has launched several initiatives to enhance knowledge transfer.
- The Irish government created the Knowledge Transfer Ireland (KTI) in order to help business to benefit from access to Irish expertise and technology by making it simple to connect and engage with the research base in Ireland. Knowledge Transfer Ireland enable business to leverage the commercial potential of Irish research and innovation through connecting businesses with cutting-edge research, expertise and opportunities, making it easier to find technology, IP and expertise. However, in the Blue Economy there is an urgent need for sharing existing knowledge and infrastructure in ocean sciences and technologies developments. The difficulties that industry face to ensure a balance between cost effectiveness, time management and trust as well as the lack of access to finance and a shortage of suitably skilled workers have been identified as blocking growth in nearly all economic sectors, especially in the blue economy in Ireland. There is not yet enough collaboration between the public and private sectors on innovation and that the inability to transfer research results into goods and services as well as a growing skills gap are affecting knowledge intensive sectors.
- Portugal has been actively collaborating at international level for the innovation in the Blue Economy, being part of European networks. There is a wide list of projects approved within



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Portugal 2020 programme which means that Portugal has been investing in these areas. However, the blue economy is not a priority axis and its financing have been done through transversal financing. Portugal has several policies related to the sea and its exploitation and bioeconomy is central to the strategy of the country. Portugal is also investing in several initiatives to promote innovation and entrepreneurship, recently mapping the network of TTOs in order to establish a TTO network. Regarding the existing funding mechanisms, they are scattered under other priorities of the PT2020. There is still specific funding for projects focusing on Blue Economy such as MAR2020 and Fundo Azul. However, the results of these projects are not readily available.

- Spain still reveals a limited collaboration of the universities with companies and it is considered as one of the factors hindering the incorporation of innovation to Spanish production. Improving programmes and public policies in the Spanish science and technology system has led to positive effects on the country's social and economic dynamisation processes. However, the fact that intensive scientific production, based on "excellent" indicators, coexists with a deficient transfer production, reinforces the need to analyse the mechanisms needed to quantify and qualify the impacts of R&D&I generated in society.
- The relevance of Blue Economy for UK is emphasised by the successful research projects on the field. From the collected database, almost 40% of the projects are related to wastewater management and solid waste. Effort on Renewables and Ocean monitoring and surveillance project is highlighted as the topics most funded in 2<sup>nd</sup> place (18% of the projects are in each one of those two fields). Despite the relevance of the carbonisation of the blue economy sectors, a few numbers of projects are related to that research topic.

## References

[https://ec.europa.eu/research/innovation-union/pdf/b1\\_studies-b5\\_web-publication\\_mainreport-kt\\_oi.pdf](https://ec.europa.eu/research/innovation-union/pdf/b1_studies-b5_web-publication_mainreport-kt_oi.pdf)

<https://www.enseignementsup-recherche.gouv.fr/cid51354/valorisation-de-la-recherche.html>

<https://www.lemonde.fr/blog/huet/2018/04/05/la-place-de-la-france-dans-la-science-mondiale/>

[https://www.wipo.int/edocs/pubdocs/en/wipo\\_pub\\_941\\_2018.pdf](https://www.wipo.int/edocs/pubdocs/en/wipo_pub_941_2018.pdf)

<https://www.pays-de-brest.fr/economie-et-emploi/actualites/348-un-cluster-pour-developper-la-filiere-algues>

<https://idealg.u-bretagne-normandie.fr/fr>

[https://pole-mer-bretagne-atlantique.com/joomlatools-files/docman-files/291382\\_LDB2019\\_BD-comprese.pdf](https://pole-mer-bretagne-atlantique.com/joomlatools-files/docman-files/291382_LDB2019_BD-comprese.pdf)

<http://www.captiven.fr/>

<https://www.gov.uk/government/publications/innovate-uk-funded-projects>  
[about.beauhurst.com](https://www.beauhurst.com)

<https://www.crunchbase.com/>

<https://www.climate-kic.org/start-ups/cella-energy/>

<https://deepocean-group.com/tag/adus/>

<http://c8s.co.uk/>

<https://www.arviatechnology.com/>

[www.molendotech.com](https://www.molendotech.com)

<https://gtr.ukri.org/projects?ref=710532>

<https://app.dimensions.ai/details/grant/grant.8469637>

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/550429/Energy\\_Catalyst\\_-\\_Late\\_Stage\\_-\\_Round\\_3\\_-\\_Competition\\_Results.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/550429/Energy_Catalyst_-_Late_Stage_-_Round_3_-_Competition_Results.pdf)

<https://www.rushlightevents.com/wp-content/uploads/2017/06/Innovate-UK-Energy-Catalyst-Round-3-Directory.pdf>

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<https://www.youtube.com/watch?v=905x-tlqdS4&feature=youtu.be>

<https://trimis.ec.europa.eu/project/lhoft-liverpool-humber-optimisation-freight-transport>

<https://gtr.ukri.org/projects?ref=700669>

<https://ore.catapult.org.uk/stories/wasp/>