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Blue economy in the Mediterranean:

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Plan Bleu

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INTRODUCTION

Oceans cover 72% of the surface of our blue planet and constitute more than 95% of the biosphere. Life originated in the oceans and they continue to support all life by generating oxygen, absorbing carbon dioxide, recycling nutrients and regulating global climate and temperature. Oceans provide a substantial portion of the global population with food and livelihoods and are the means of transport for 80% of global trade. At the "Rio +20" Conference[1], the concept and implementation of a "green economy" was at the core of the debate. Throughout the preparatory process, however, many coastal countries questioned the applicability of the "green economy" to them, and presented strong positions for a "blue economy" approach to be more prominently addressed on the assumption that seas and oceans are crucial to move towards sustainable, low-carbon, resource efficient, and inclusive development patterns.

At the global level in 2015, through various conferences including that of New York (sustainable development goals-SDG) and Paris (climate agreement), the UN 2030 development agenda set targets for the conservation and sustainable use of oceans, seas and marine resources (SDG 14). Likewise, the conservation and sustainable use of marine and coastal biodiversity is fully in line with the preparations for the Post-2020 CBD Biodiversity Framework as a stepping stone towards the 2050 Vision of « Living in harmony with nature ». At regional level, since ancient times, the Mediterranean Sea has been crucial for the economy of coastal communities and States. Nowadays, traditional (e.g. aquaculture, fisheries, coastal and maritime tourism, shipping, ship-building/repair, ports) and emerging maritime economy sectors (e.g. blue biotechnology, ship recycling, ocean energy) show enormous potential for inclusive prosperity and growth, a potential which is inextricably linked to our capacity to apply management practices able to maintain the integrity of marine ecosystems and, as such, the services they provide. The Mediterranean Sea is a development space which, if used sustainably, may trigger economic prosperity and contribute to the stability of the region through the creation of jobs and innovative business opportunities in the maritime sectors[2].

The blue economy is a low polluting, resource-efficient and circular economy based on sustainable consumption and production patterns, enhancing human well-being and social equity, generating economic value and employment, and significantly reducing environmental risks and ecological scarcities.

The blue economy integrates a diverse range of economic activities from coastal and marine tourism to maritime transport, fisheries and aquaculture, and offshore renewable energy. Its potential contribution to sustainable job creation, food security, clean energy supply, circular economy and sustainable mobility is huge.

In the framework of the « United Nations Environment Programme (UNEP)/ Mediterranean Action Plan (MAP) 2018-2019 Programme of Work », the UNEP/MAP Secretariat, through its Plan Bleu/Regional Activity Center, was tasked to identify « case studies » with the ultimate aim of providing a Mediterranean perspective to the main blue economy issues and challenges and developing recommendations for a transition towards a Mediterranean blue economy in line with SDG 14.

Extract from the MAP Programme of Work and Budget for 2018-2019 (Decision IG.23/14)

MTS Strategic Outcome: 4.4 Monitoring and assessment

Indicative Key outputs: 4.4.1 Mapping of interaction mechanisms on coastal and marine environment at regional and local levels developed, including assessment of the risks of sea level rise and coastal erosion, and their impacts on coastal environment and communities

Main Activity: 4.4.1.2: Implementing the SDG 14 in the Mediterranean by promoting the Blue Economy.

Expected Deliverable: Case studies to foster the Blue Economy (in fisheries and aquaculture, maritime transport and port activities, wind energy, tourism and recreation, biological resources), covering economic benefits of environmental services, of innovation, of inclusion (e.g. of the young). Recommendations for a transition towards a Blue Economy in the Mediterranean.

Such activity was designed also with a view to feeding the Plan Bleu and UNEP/MAP 2019 Report on the State of the Environment and Development in the Mediterranean, which will include a chapter on economic sectors and the potential for transition towards a blue/green circular economy.

The overall objective of the Report is to assess and highlight the current weight and various opportunities provided by the blue economy in the Mediterranean in support of sustainable development and to showcase a range of concrete examples and good practices of how blue economy works in the region.

1 United Nations Conference on Sustainable Development (UNCSD), Rio de Janeiro, 20-22 June 2012.

2 This is emphasized in the Mediterranean Strategy for Sustainable Development (MSSD 2016-2025) adopted by the COP 19 of the Barcelona Convention, in the 2015 Union for the Mediterranean Ministerial Declaration on the Blue Economy, and in the work of the European Commission, the World Bank, the European Investment Bank, etc.

The specific objectives are: i) to set out the current overall policy and socio-economic picture for the Blue Economy as well as future perspectives in the Mediterranean; ii) to illustrate the opportunities offered by the Blue Economy with a limited number of case studies drawn from various geographic areas and sectors; iii) to establish strategic directions for the future development of Blue Economy in the Mediterranean region. According to a vast literature, "case studies" are particularly suitable for understanding the interaction between contexts and phenomena through hypotheses that explain the nexus between given facts and observable results. Based on a non-exhaustive group of field experiences in different maritime sectors and geographic areas, the Report highlights the opportunities and challenges that the blue economy offers in supporting sustainable development in the Mediterranean region. As a general reflection on the lessons learnt/recommendations from the "case studies", several KEY MESSAGES and STRATEGIC DIRECTIONS are suggested for the development of the blue economy in the Mediterranean area.

In order to be considered for the present collection, on-going and completed projects and initiatives in various maritime sectors (FISHERIES AND AQUACULTURE, MARITIME TRANSPORT AND PORT ACTIVITIES, WIND ENERGY, TOURISM AND RECREATION, and BIOLOGICAL RESOURCES) have been assessed against specific criteria, such as: i) responding to relevant needs from the perspective of the targeted beneficiaries; ii) promoting direct/ indirect socio-economic benefits; iii) including elements of institutional, social, economic and environmental sustainability; iv) working towards the prevention of environmental degradation and conservation/valorization of ecosystem services; v) presenting or applying innovative methodologies and/or clean technologies; vi) paying attention to the issue of social inclusion; vii) capacity to provide quantitative/qualitative information; viii) involving a wide range of stakeholders; ix) last but not least, the potential for their complete or partial replicability/scale-up.

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The Report builds on the project "Measuring, monitoring and promoting a blue economy for a sustainable development of the Mediterranean region", funded by the MAVA Foundation, which provided in 2017 some indicators on the main maritime sectors and the following general conclusions and recommendations (Box 1):

Box 1: Conclusions and recommendations concerning national and international efforts for a blue economy in the Mediterranean.

1. Improve governance for a blue economy. This must first be dealt with by implementing existing international agreements relating to the sea on a global and regional level. These agreements must be signed, ratified and implemented in the interest of signatory countries and the region. Beyond existing agreements, the future development of international right and international cooperation on marine and maritime issues relies on the work of the UN, the World Bank, the OECD, and UN Environment, as well as the work of the Union for the Mediterranean (UfM), the European Union (EU) and the UN Environment/MAP. Secondly, it requires the appropriate implementation of legislation, regulations and policies at a national and regional level, combining the suitable involvement of stakeholders and transparent decision-making processes.

2. Expand the use of economic instruments (prices, taxes, subsidies) by improving knowledge on economic distortions (e.g. those resulting from subsidies that damage the environment), by using greener taxation, and by expanding the incentive role of prices, especially for natural resources and pollution.

3. Support technological and social innovation by promoting suitable technologies, sharing best practices and social entrepreneurship. It is important to reduce the environmental impacts of the high seas and coastal economy and thereby increase socio-economic benefits (job creation, training and employment for young people, food security, reduced poverty).

4. Invest in the blue economy and increase related financing by including various funding tools - traditional and innovative, national and international (development banks, international funds), public and private (philanthropic or non-philanthropic).

5. Promote the development and use of statistics and indicators to base blue economy policies on scientific and factual knowledge and to follow their progress in a consistent manner.

(Conference on "A blue economy for sustainable development in the Mediterranean region», PAP, SCP/RAC and Plan Bleu, Marseilles, May 2017)

The case studies presented represent a small, though significant, percentage of the projects and initiatives engaged in promoting a Mediterranean blue economy transition. Willingness to share knowledge, experiences, tools, results and even failures is crucial to promoting such a transition.

Over one hundred blue economy stakeholders have been contacted, and forty case studies have been finally selected. The case studies herewith presented have been submitted by national authorities, regional authorities (Government of Catalonia, Lazio Region, Andalusia Region, South Region of France, Region of East Macedonia and Thrace, Marche Region, Region of Thessaly), intergovernmental organizations, Interreg MED communities (PANACeA, BlueTourMed, and InnoBlueGrowth), the WWF Mediterranean Marine Initiative, national parks (Al Hoceima, La Maddalena, Taza), ports (Porto Antico Genova, Port of Vigo), research institutes, universities, business sectors and innovative SMEs active in maritime sectors, and international financial institutions (The World Bank and European Investment Bank). Each case study presented is the result of direct exchange with the promoter(s) and, in some cases, also the beneficiary(ies).

Many thanks to all of them for making this Report possible.



BACKGROUND

Since the Rio Earth Summit 2012, the global community has started to recognize the importance of the marine environment which, if sustainably managed, shows huge potential for boosting socio-economic development through business opportunities and job creation. The various maritime sectors currently account for 2.5% of the world's gross value added (€1.3 trillion), and growth is expected in marine aquaculture, offshore wind power, tourism (especially cruise-related activities), ports and maritime equipment, maritime transport, fish and seafood processing, ship repair and dismantling.

Maritime sectors, however, are placing growing pressure on marine ecosystems, thereby threatening their capacity to maintain their long-term productive potential[3]. The main causes of degradation stem from shortage of information about identified problems and the lack of effective mechanisms for integrating external environmental and social factors into public and private sectors' decisions, therefore preventing the right conditions for sustainable ocean management from being created.

The blue economy in the Mediterranean Basin

According to the Mediterranean Strategy for Sustainable Development (MSSD 2016-2025) "***A green economy, called the blue economy when applied to Mediterranean coastal, marine and maritime sectors, promotes sustainable development while improving human well-being and social equity and significantly reducing environmental risks and ecological shortages". The Conference "A blue economy for a sustainable development of the Mediterranean region" organized by Plan Bleu under the umbrella of the MAP in May 2017 proposed the following definition: "Blue economy is a low polluting, resource-efficient and circular economy based on sustainable consumption and production patterns, enhancing human well-being and social equity, generating economic value and employment, and significantly reducing environmental risks and ecological scarcities. The blue economy allows the preservation of healthy Mediterranean marine and coastal ecosystems and ensures the continuous delivery of goods and services for present and future generations. Progress towards a successful blue economy relies on the sustainable development of key socioeconomic activities: fisheries; aquaculture; tourism and recreational activities; maritime transport and port activities; bioprospecting or exploitation of biological resources; exploitation of renewable energy sources***".

What is the size of the blue economy in the Mediterranean Basin?

- The sectors of the blue economy are key components of the regional economy and provide significant innovation and wealth potential. With 46,000 km of coastline and unique marine and fish resources, the Mediterranean Sea is the fifth largest economy in the region, with a total value estimated at €4.7 trillion.

According to recent studies:

- In 2015, the direct contribution of tourism to the gross domestic product (GDP) of Mediterranean countries was 4.5% of the region's GDP;
- The Mediterranean cruise industry has become the world's second largest market after the Caribbean;
- Intra-Mediterranean maritime trade-flow accounts for 25% of global traffic volumes;
- With a current value of nearly €4.1 trillion and 353,000 direct jobs, the Mediterranean Sea is one of the most promising sectors in terms of growth and employability.

Current opportunities concern several sectors:

- Shipping and port equipment;
- Fishing and aquaculture;
- Tourism;
- Energy;
- Biotechnology.

Growth opportunities for the blue economy are dependent on existing international agreements, major capital flows (aid, direct foreign investment, etc.) and major trade flows. International agreements applicable to the marine environment include the United Nations Convention on the Law of the Sea, regional conventions on the seas (including the Barcelona Convention), technical decisions or guidelines adopted by UN agencies such as the Food and Agriculture Organization (FAO) (fishing), the International Maritime Organization (IMO) (shipping), etc., the Rio Conventions (Convention on Biological Diversity – CBD and ABT, the United Nations Framework Convention on Climate Change – UNFCCC, the United Nations Convention to Combat Desertification – UNCCD), Agenda 21 and particularly SDG 14, and other environmental agreements (biodiversity conventions, Stockholm, Rotterdam, Minamata, plastic, Arctic), etc.

3 Mainly due to the lack of effective waste and wastewater management systems, heavy maritime traffic (15% of global traffic), including oil tanker traffic and its ensuing pollution, overfishing and illegal fishing, degradation of marine and coastal habitats, mass tourism and its impacts on natural resources, etc.

Several initiatives are underway in the region to promote the transition to a blue/green economy:

- **The Mediterranean Strategy for Sustainable Development (MSSD 2016-2025)**: Objective 5 of the strategy concerns the "transition towards a green and blue economy".

- **The World Bank:** The World Bank's blue economy programme helps countries promote sustainable governance of marine and coastal resources to support sustainable and inclusive growth, by supporting sustainable fishing and aquaculture, creating coastal and marine protected areas, reducing pollution, integrating resource management and developing ocean health knowledge and skills. For example, via actions in the MENA region and those of the Center for Mediterranean Integration.

- **The FAO:** For many years, FAO has been working to build vibrant fisheries and coastal communities through its "Blue Growth Initiative", with its emphasis on bolstering economic, environmental and social development that will benefit communities dependent on fisheries for their livelihoods. The recent "Blue Hope Initiative" builds upon these activities, emphasizing the important role that productive fisheries activities can play in communities vulnerable to migration.

- **UN Environment**: the green economy initiative launched by the UNEP in late 2008 includes several components with the aim of supporting the development of activities in the "green" sectors while making polluting ("grey") sectors "greener". UN Environment has not developed any specific strategies for the blue economy but did publish a set of best practices on the subject: "Blue Economy: Sharing success stories to inspire change" (2015). The following actions fall within the framework of the MAP: the Action Plan on Sustainable Consumption and Production (SCP), the Ecosystem Approach (EcAp), the Protocol on Integrated Coastal Zone Management (ICZM),

- **Union for the Mediterranean**: The Ministers of the UfM met in Brussels in November 2015 and committed to promoting the blue economy. They agreed on the need for the Mediterranean region to make the best use of the potential of the blue economy, to promote growth, jobs and investments and reduce poverty, whilst safeguarding healthy seas and developing a clear vision for the sustainable and integrated development of marine and maritime sectors at national and sea basin level. The UfM Regional Blue Economy Stakeholder Conference held in Naples in November 2017 promoted a regional specific and multi-stakeholder dialogue concerning the opportunities and challenges of the various blue economy sectors in terms of job creation and investments potential;

- **European Union**: The EU "Blue Growth" strategy forms the strategic framework for supporting sustainable growth in the marine and maritime sectors. It is the "marine and maritime" contribution to the Europe 2020 strategy for smart, sustainable and inclusive growth, and focuses on three areas: the development of sectors, the legal and knowledge framework, and sea basin strategies.

- The various available tools include: the Marine Strategy Framework Directive, the Circular Economy Package (Action Plan and implementation, and the monitoring framework), the Eco-design Working Plan 2016-2019, regional projects supported by the EU such as SwitchMed, BlueMed, WestMed Initiative and Interreg Med Programme.

- **European Investment Bank (EIB)**: Following the United Nations Ocean Conference (June 2017), the EIB committed to support projects contributing to the protection of coastal ecosystems by reducing marine pollution, and will continue to promote innovation in partnership with the European Union and other institutions, particularly through investments contributing to the growth of a sustainable blue economy.

- **General Fisheries Commission for the Mediterranean**: the Commission's 2017-2020 strategy for a sustainable Mediterranean is organized around 5 goals: (1) reverse the decline in fish stocks by spreading scientific knowledge, (2) support small-scale fishing as a source of livelihood, (3) prevent IUU fishing, (4) reduce the impacts of fishing on marine environments, and (5) develop capacity building and cooperation.

- The **World Wildlife Fund** is the author of the report: "Blue Growth in the Mediterranean Sea: the Challenge of Good Environmental Status", MedTrends Project (2015); Reviving the Economy of the Mediterranean Sea - Actions for a Sustainable Future (2017).

- **Regional NGOs** (e.g. ANIMA, Euro-Mediterranean Forum of Institutes of Economic Sciences) and business networks (e.g. the Mediterranean World Economic Foresight Institute – IPEMED), etc.

General management tools

- Development of framework policies and strategies (e.g. the Mediterranean Strategy for Sustainable Development or the European Common Fisheries Policy),
- Spatial planning (ICZM, Maritime Spatial Planning – MSP, etc.) and ecosystem-based management approaches (Ecosystem Management, Marine Protected Areas) and their application in each sector: fishing (Ecosystem Approach to fisheries – EAF), aquaculture (Ecosystem Approach to Aquaculture – EAA), etc.,
- Prevention and integration tools (impact studies: Environmental Impact Assessment – EIA, Strategic Environmental Assessment – SEA),
- Codes of best practice (e.g. FAO Code of Conduct for Responsible Fisheries)
- Standardization and certifications (sustainable consumption and production – SCP, organic certifications, etc.)
- Training and skill building
- Information, communication.

Several types of regulatory, economic or financial tools can be used (and are often combined) to promote a blue economy in the Mediterranean:

- Prices and fees
- Taxes
- Subsidies
- Payments for services rendered
- Trust funds
- Public-Private Partnership
- Regulations (Marine Protected Areas, fishing practices and seasons, fishing net mesh size, IUU fishing, port development, etc.).
- Support for investment, development of value chains, distribution channels
- Support for R&D and innovation
- Individual rights (e.g. ownership, usage, freedom to conduct business)

It seems that no studies have ever been carried out on their use in the Mediterranean and instruments are mainly used on a sector or field basis.

To better understand the opportunities offered by the blue economy, it is also important to take into account scientific and statistical knowledge about the status of marine and coastal ecosystems, the potential that they offer and the threats that can affect them (pollution, climate change, degradation of fragile environments, etc.). This is one of the historic functions of Plan Bleu as it works to create observatories, databases, maps at different scales[4].

4 As one of the most recent examples, Plan Bleu is finalizing the Report on the Status of the Environment and Development in the Mediterranean 2019.



KEY MESSAGES

GOVERNANCE:

- Ensuring inclusive, transparent and accountable decision-making processes under clear legal and regulatory frameworks based on scientific data and information;
- Setting up science-policy interface mechanisms to improve the effectiveness of governance.

MARINE POLLUTION:

- Bridging the scientific gaps hampering current pollution monitoring programmes at national level;
- Designing innovative mechanisms for enforcing the obligations under the Barcelona Convention and its Protocols.

POLICY MIXES:

- Tackling the range of environmental challenges associated with multiple pressures and activities with an adequate combination of political, regulatory and economic instruments;
- Adopting policy mix solution to mainstream blue economy into territorial policies and strategies.

SUSTAINABLE FINANCE:

- Establishing effective dialogue with public and private investors to mainstream sustainable principles and targets into their investment strategies related to maritime sectors for an environmentally friendly, low-carbon and climate-resilient economy;
- Going beyond economic performance as main indicator of success, and integrate environmental and social criteria for the development of an environmentally friendly, low-carbon and climate-resilient economy.

EDUCATION, EMPLOYABILITY AND ENTREPRENEURSHIP:

- Matching educational offer with the needs of the maritime sectors' labor market by addressing the range of "blue skills" required;
- Establishing mechanisms to facilitate the sharing of knowledge, experiences and technologies between stakeholders while promoting the clustering of SMEs and start-ups and facilitating their access to finance.

SUSTAINABLE TOURISM:

- Promoting innovative products and services to reduce seasonality and territorial imbalance between coastal and inland areas within the concept of "maximum threshold";
- Anchoring tourism developments to sustainability indicators and equitable distribution of costs and benefits.

STRATEGIC DIRECTIONS

Here below, proposed actions for enabling a **Mediterranean blue economy transition**[5]:

THEMATIC ISSUES AND PROPOSED ASSOCIATED ACTIONS

Sustainable finance:

- Identify partnerships and design actions to mainstream sustainability criteria into investment strategies of financial institutionsSetting up science-policy interface mechanisms to improve the effectiveness of governance.

Sustainable tourism, in particular cruise and recreational boating:

- Develop a common monitoring methodological framework and destinations-specific indicators to measure tourism sustainability.
- Transfer and mainstream practices, tools and methodologies through the development of guidelines in collaboration with, and to be endorsed by, major sectorial actors.

Education towards employability:

- Associate with existing masters/trainings/courses to mainstream identified educational priorities into their programmes while promoting complementarity and synergies, and mitigating duplication.

Local communities' developments:

- Strengthen the link between local communities and smart ports and marinas.
- Capitalize on small scale fisheries and integrated aquaculture existing experiences
- Promote further research to highlight the link between marine protected areas and ecosystem services provided

CROSS-CUTTING ISSUES AND PROPOSED ASSOCIATED ACTIONS

Regional & territorial dimension:

- Consolidate and further strengthen regional initiatives focusing on the Mediterranean region at large (Union for the Mediterranean, the Western Mediterranean Initiative, BLUEMED, EUSAIR)
- Improve the knowledge on the land-sea nexus in order to advocate for better connection between marine traffic (ports) and supply chains on land (train and free-way networks)

Capitalization:

- Design capitalization tools and organize capitalization events for promoting the visibility and transferability of the tools/outputs produced in the framework of the case studies, when supporting circular economy and low polluting, resource-efficient technology

Regulatory frameworks and policy mix:

- Develop compliance mechanisms for the implementation of binding provisions and an effective policy mix to support the Mediterranean blue economy transition

5 This section has been developed based on the analysis of the case studies and discussions with stakeholders involved in them, National focal points and MCSD members. It aims at proposing strategic next step actions within the framework of the Barcelona Convention, and at helping target future work supported by UNEP/MAP Secretariat through its Plan Bleu Regional Activity Center.

LESSONS LEARNT FROM THE CASE STUDIES[6]

FISHERIES AND AQUACULTURE

- Effective governance is crucial to conserve marine natural resources while harnessing the potential of fisheries and aquaculture. Operational cooperation based on common goals and aligned approaches needs to be strengthened at regional and sub-regional level as well as the collaboration among competent organizations; (CASE STUDY No. 3)
- Design multi-actor, transnational and cross-sectorial actions, based on the "value chain approach", for generating alternative sources of incomes for fishermen (e.g. marine environment monitoring, environmental education, fishing-tourism, MPAs patrolling activities, valorization of local fish products, etc.) and critically reviewing the legislative gaps and/or bottlenecks hindering such income diversification; (CASE STUDY No. 3)
- Establish clear mechanisms for the participation of small-scale fishermen in MPAs decision-making processes within the existing collaboration schemes between MPAs and fishery-related authorities; (CASE STUDY No.3)
- Support technological solutions for sustainable fishing practices while fostering the valorization of discards by auxiliary industries with the aim of promoting job creation and onshore investments; (CASE STUDY No.4)
- Co-management of natural resources among fishermen, scientists, social and environmental organizations and public administration allows management transparency in the decision-making process as well as the restoration and maintenance of stocks; (CASE STUDY No.1 and No. 2)
- Address the issue of illegal, unreported and unregulated (IUU) fishing through additional human and financial resources for control and inspection tasks according to existing laws, building institutional capacity and designing transnational joint operations; (CASE STUDY No.32)
- Promote the clustering of the "fishing-tourism" sector for knowledge transfer while harmonizing the methodologies for the collection and processing of data on the sector; (CASE STUDY No.33)
- Focus on coastal communities as «socio-cultural outposts» when addressing poverty reduction and marine resource protection; (CASE STUDY No. 5)
- Design coastal areas policies and development models taking in consideration coastal communities' aspirations and needs in order to avoid future detrimental impacts both at the environmental and social level; (CASE STUDY No. 5)
- Ports can play a major role in ensuring traceability and quality of fishing products, and have a role in coordinating actors to fight against IUU fishing; (CASE STUDY No. 8)
- Initiatives on sustainability led by the fisheries/aquaculture industry should also involve ports, which can ease the implementation of certain activities related to environment and industry development; (CASE STUDY No. 8)
- The Integrated Multi-Trophic Aquaculture is the most promising path for an efficient and responsible food production based on the ecosystem management approach. (CASE STUDY No. 40)



6 In brackets the case study from which lessons learnt/recommendations have been drawn.

MARITIME TRANSPORT AND PORT ACTIVITIES

- Reduce the impact of coastal and marine infrastructures, especially in heavily urbanized settings, through the application of ecological engineering solutions in waterfronts. Current trends, supported by a growing number of scientific publications, support the use of environmentally sensitive technologies for addressing both ecological and structural functions; (CASE STUDY No. 28)
- Ports may play a crucial role in promoting private sector investments and become investment hubs for clean technology and circular material flow and, indirectly, create the need for new professional profiles and thus new jobs; (CASE STUDY No. 8)
- Ports should implement a holistic approach to their management strategies and look for synergies and collaboration between sectors in order to foster innovation; (CASE STUDY No. 8)
- Environmental sustainability of ports is demanded by corporations and individuals, and it is crucial to attract public investment funds; (CASE STUDY No. 9)
- The yachting sector, tourist ports and marinas face various and specific challenges (e.g. from protection of the coastal and marine environment and climate change to growing competitiveness in the sector or demand for new services by end-users). Digital transformation, to be introduced gradually through capacity building and administrative adaptation, is crucial to keep offering high-quality services; (CASE STUDY No. 34)
- Design public policies addressing yachting sustainability through business models based on innovative approaches/ tools and promote a homogenous regulatory framework for the sector across the Mediterranean region; (CASE STUDY No. 29)
- Include innovative elements in planning tools such as geo-hazard, the Mediterranean Sea being geologically active; (CASE STUDY No. 27)
- The managing authorities of marine protected areas should work with local authorities to set specific routes to limit damage from anchoring; (CASE STUDY No. 21)
- Development of environmental indicators for the cruise sector (e.g. availability of waste facilities, impact on local natural heritage, percentage of waste recycled every year, availability of shore-side electricity, share of renewable public transport, share of renewable energy sources at destination) to be used for granting sustainability certification; (CASE STUDY No.19)



ENERGY

- New legislation for offshore wind projects, inspired by that in force in the North European countries, is needed to be able adapt rapidly to the evolving offshore wind market; (CASE STUDY No. 14)
- Oil and gas industries have developed a wide range of services and products for exploration/production/ commercialization. Most of them can be adapted when designing, constructing, implementing and operating large-scale offshore mechanical structures such as floating wind platforms; (CASE STUDY No. 14)
- Wave energy has comparative advantages over other renewable energy sources (e.g. the increase in power in winter when electricity demand peaks, the low environmental costs and the ability of satellites to predict waves two days in advance). In order to have a significant role in the future renewable energy mix in the Mediterranean, PPAs (power purchase agreements) and feed-in tariffs should be considered as part of a regional strategy for climate change mitigation; (CASE STUDY No. 10)
- Ensure that existing national legislative/regulatory frameworks on marine energy do not cause uncertainties to potential investors or delay the development of the sector which is still unattractive. Specific public policies, investment models and financial schemes are crucial for the development of the sector; (CASE STUDY No. 10)
- Liquified Natural Gas has a lower environmental impact than traditional fuels. It should be promoted in all marine activities through the cooperation of public and private stakeholders, including research and training institutions (CASE STUDY No. 8)

TOURISM AND RECREATION

- The promotion of sustainable marine and coastal tourism requires a specific enabling environment concerning governance and policy as well as capacities to effectively address the lack of integrated planning and cross-sectoral policies; (CASE STUDY No. 27)
- Financial incentives for innovative tourism products and services are needed (e.g. attractions out of season, routes to link sea and inland attractions, alternative activities such as ecotourism, pesca-tourism, recreational fishing, underwater heritage, etc.); (CASE STUDY No. 27)
- Regional forces must be joined to establish effective dialogue with public and private financial investors with the aim of including a set of sustainable principles and targets in their investment strategies related to tourism; (CASE STUDY No. 17)
- Strengthen the interface between enterprises-investors-knowledge providers in order to promote the introduction of innovative and low-impact solutions and practices within the current coastal and maritime tourism model; (CASE STUDY No. 31)
- Support the creation of nautical clusters not only to promote the sector's sustainability, competitiveness, innovation and transfer of results but also as a platform for social progress (job creation) and inclusion (youth, women); (CASE STUDY No. 29)
- Modernize marinas through PPPs (public-private partnerships) and cluster initiatives in order to support the integration of sustainable solutions in their services; (CASE STUDY No. 34)
- The preservation of underwater natural and cultural heritage and surrounding marine ecosystems and biodiversity should be included into any policy, strategy, or plan dealing with the sustainable and responsible development of the tourism sector; (CASE STUDY No. 15)
- Promote tourism in protected areas (ecotourism) by building the capacity of protected areas staff, who are often unaware of important aspects of sustainability in tourism. Protected Areas (PAs) are ideal areas for fostering ecotourism initiatives provided that local and regional actors acquire the skills to remain competitive and balance market expectations with conservation needs; (CASE STUDY No. 16)
- Assess the social, cultural, economic and environmental impact of tourism products/services in the destinations through the development of site-specific and more refined indicators and means of verification for an informed planning process; (CASE STUDY No. 16)
- Promote investments on sustainable tourism products and services based on data showing the competitive advantages with respect to the mainstream products and services currently in the tourism market (e.g. higher efficiency, waste reduction, energy savings and better resource management, reduced ecological footprint);
- When developing new tourism products/services, the perspective of all stakeholders, especially the most vulnerable ones, must be included from the very beginning. Although tourism products and services should be planned holistically and not only looking at the economic revenues, it is important to pursue tangible goals that can turn into economic benefits in order to involve the private sector; (CASE STUDY No. 17)
- Fishing-tourism is a driver for the development of coastal communities in terms of employment of vulnerable people (especially women and youth) and preservation of traditional, cultural, ecological and ethnological values; (CASE STUDY No. 33)
- Marine Protected Areas (MPAs), like all protected areas (PAs), are established to protect natural values though they are increasingly required to support local development through the creation of jobs and business opportunities. In this regard, MPAs should establish ad-hoc collaborations with enterprises, universities, etc. to preserve and further strengthen those ecosystem services, which are particularly crucial for the development of local communities, and in particular tourism; (CASE STUDY No. 17)
- The adoption of environmental quality labels is a comparative advantage in a global market which is increasingly sensitive to sustainability issues. Specific regulations and financial incentives should be designed to encouraging operators to adopt eco-friendly practices so as to achieve officially recognized labels, which should be extensible not only to economic sectors but also to institutional actors. (CASE STUDY No. 18)



BIOLOGICAL RESOURCES

- Public consultation and community engagement are essential to building trust and ownership and to sustaining an ICZM approach on the ground; (CASE STUDY No. 25)
- Enhance social awareness and approval towards marine restoration, while providing public administrations and policy makers with guidelines on sustainable, innovative and tested marine restoration measures tailored to different marine habitats and ecosystems; (CASE STUDY No. 24)
- Frame marine ecosystem restoration as a business opportunity, and design initiatives for the transfer of the latest scientific knowledge by involving public and private industries through Public Private Partnerships; (CASE STUDY No. 24)
- Quality beach labels should place stronger emphasis on ecosystems and, as such, assign due importance to seagrass meadows and banquettes in sandy beaches with coastal dunes; (CASE STUDY No. 23)
- Coastal management approaches should consider the dynamics of the Posidonia littoral zone, the formation and density of banquettes, the presence of sensitive areas (but not exclusively within or nearby protected sites); (CASE STUDY No. 23)
- Conserve and/or restore "blue carbon deposits" as well as the sequestration services provided by tidal marshes and seagrass beds, in particular those accumulated in the soil.[7] (CASE STUDY No. 22).



7 Discussion is open about using Blue Carbon financing mechanisms to financially support the effective management of existing MPAs or the creation of new MPAs (http://www.medmpaforum.org/en/node/6833)

"CASE STUDIES" DESCRIPTION

1. CO-MANAGEMENT COMMITTEE OCTOPUS FISHERY



Map of the project area (in orange)

Blue Economy sector:	FISHERIES AND AQUACULTURE – project that affects artisanal-fishing sector, scientists, environmental and social organizations, public administration
Objective(s) of the project:	Promote a long-term conservation and sustainable octopus' fishery by the enforcement of measures for preserving fishing resource and ecosystems as well as improving the socio-economic conditions of the fishing sector. This is to achieve through an equal footing decision-making committee composed by fishermen, scientists, social and environmental organizations and public administration.
Project promoters:	The fishing sector itself was the promoter of the management plan together with the public administration; this enabled the co-management mechanism which gives equal weight to all the sectors implied.
Project Partners:	Artisanal fishermen coming from 6 fishing auctions (Sitges, Vilanova i la Geltrú, Calafell, Torredembarra, Tarragona and Cambrils), Scientists from the Marine Science Institute (ICM- CSIC), Social and environmental organizations and Administration (Catalan Government).
Geographical area(s) of implementation:	central coast of Catalonia (from Sitges to Hospitalet de l'Infant) on the Northwestern Mediterranean coast.
Target beneficiaries:	The main beneficiaries from the project, in the short term, will be the artisanal fishing sector and, in the long term, the fishing resources which, in return, will lead to a regional benefit both environmentally and socially.

Duration:	ongoing since January 2019. During this period the Co-management Committee has been created, since then a total of 4 meetings have been held and a draft of the Regulation measures to be taken already performed.
Overall budget:	18.150 EUR/year for the research survey
Summary of the project:	Within the framework of the Maritime Strategy of Catalonia and due to the interest of the artisanal fishing sector targeting the octopus in the central coastline of Catalonia, the Octopus (Octopus vulgaris) Management Plan on the central area of Catalonia has been created. The main goals of the Management plan are to ensure the sustainability (considering biological, social, economic and environmental factors) of the octopus (Octopus vulgaris) artisanal fishery through an innovative co-management participation mechanism (Co-management Committee). This tool is an equal footing decision-making structure composed by all the sectors implied, namely the octopus artisanal fishing sector, the scientists on the species, the local and national environmental and social organisations, and the regional administration. It should be noted that the octopus' artisanal fishery is very relevant in the area both historically, socially and economically, and traps used are highly selective ensuring the long-term conservation and sustainable fishery. These aspects highlight the relevance assumed by the co-management committee whose main output is the baseline of measures to be taken for guaranteeing the sustainable use of the fishery resource at biological, social and economic level. On this basis, the Committee has been working on defining the measures that must be included on the Management Plan and agreed. Here are some of the measures considered: i) biological measures (e.g. minimum weight) ii) fishery measures (e.g. temporary closures, fishing capacity, effort applied on the fishery source, time schedule, restriction on the fishing gears); iii) socio-economic measures (e.g. increase the value of the product, analysis of the historical trends on catch and price). It must be pointed out that besides giving equal weight on decision making to all the sectors implied, co-management is accomplished through adaptive management, which implies that divergent claims need to be adjusted along the process to adapt the fishery to the current situation and in order to achieve a long-term sustainable fishery.
Results achieved:	i) formation of the Co-management Committee; ii) prior to the formation of the Co-management Committee, two-year research survey has been performed on artisanal octopus fishery in order to characterize the morphological characteristics as well as determine the reproduction stages and period of the octopus population available for the fishery targeting it; iii) exploring the implementation of a "sustainable certification"; iv) advance towards the management plan baseline.
Strengths:	• the Co-management Committee is currently studying sustainable certification options and other commercial measures together with the fishing sector and specialized personnel on the administration with knowledge on commercialization. A shift towards an improved commercialization will provide socioeconomic benefits; • through the management plan, the project promotes the use of highly selective gears (two types of traps), historically used for the octopus, to achieve both the preservation of the resource and the cultural heritage of the area; • a Co-management Committee integrated by all the sectors guarantees the promotion of sustainability; • before the elaboration of the Management Plan, a two-year scientific survey has been performed providing crucial scientific knowledge in support of the decision-making process; • data on octopus catches and prices are obtained daily from the fishing auctions; • reports performed during the past two years are available upon request. • several Management Plans have been created over the last few years, so lessons learnt from previous failures or achievements can be applied to other similar exercises.

Challenges:	• achieve a long-term sustainable fishery based on a deeper knowledge on the biology and ecology of this species, and the subsequent implementation of measures that would benefit both the fishing sector and the targeted species itself.
Lessons learnt/ recommendations:	• co-management allows management transparency in the decision-making process; • the empowerment of the fishing sector (through equal footing decision-making) ensure their involvement for the long-term endorsement and success of the actions; • the presence of scientific, environmental and social organizations, and fishing and administration sectors in the Co-management Committee ensure a holistic approach to fishery and therefore its long-term sustainability; • adaptative management is essential in order to react to changing conditions and ensure a dynamic management of the fisheries.

Sources of information:

Press: https://ruralcat.gencat.cat/noticia/-/journal_content/2002/20181/5081877/agricultura-impulsa-la-constitucio-del-comite-de-cogestio-del-pla-de-gestio-del-pop-roquer-del-litoral-de-catalunya-central

Master 'Estructura poblacional y ciclo reproductor de Octopus vulgaris Cuvier, 1797 (Cephalopoda: Octopodidae) en la costa central catalana' (by Oscar Escolar): http://hdl.handle.net/10261/176855

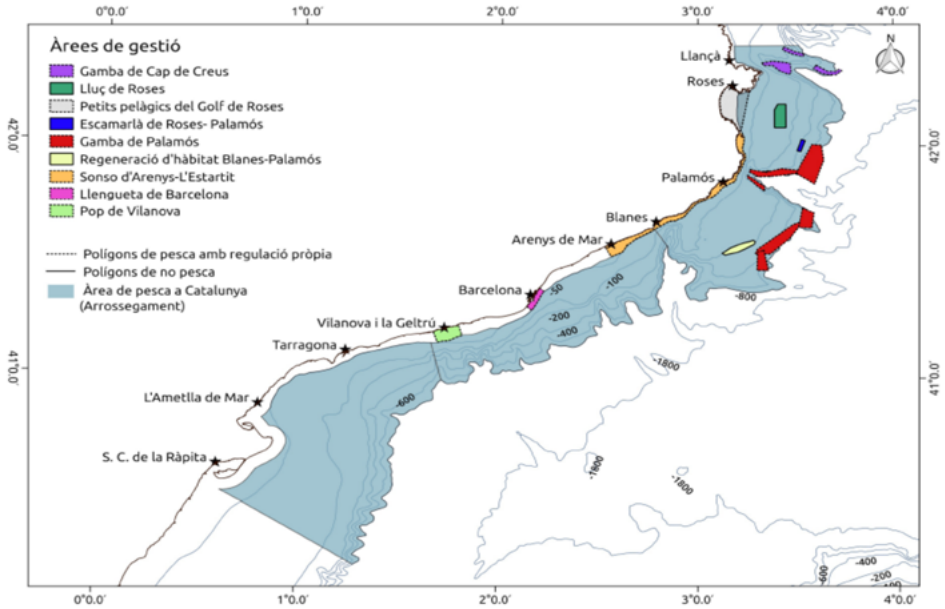
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2. FISHERMEN'S ORGANIZATIONS AGREEMENTS FOR THE PROTECTION OF DEMERSAL FISHERIES RESOURCES



Blue Economy sector:	FISHERIES AND AQUACULTURE – although professional fishing is the economic sector mainly involved, all economic sectors and social strata have indirectly benefited by, and connected with, the initiative. The management and monitoring of the agreements made implies a multi-stakeholder scenario with public administrations, scientific community, fishing sector and NGOs included.
Objective(s) of the project:	All protected areas involved in the project follow the guidelines set by the Common Fisheries Policy (Regulation EU 1380/2013, 11 December 2013 of the European Parliament and the Council) concerning the improvement of the conditions for demersal resources with the consequent long-term maintenance of the depending fishing activity. The three main target species targeted by the project (Merluccius, Aristeus antennatus, Nephrops norvegicus) are in different states of overfishing, so the general objective, in line with Article 2 of the CFP, is to ensure that fishing activities are environmentally, economically and socially sustainable, namely ensure an exploitation of living marine resources that allows the restoration and maintenance of stocks above levels capable of producing the Maximum Sustainable Yield (MSY).
Project promoters:	Coastal bottom trawling sector from Palamós, Roses, Blanes, Llançà and Port de la Selva (Catalunya, Spain).
Project Partners:	Institute of Marine Science ICM-CSIC; Catalan Fisheries Administration; WWF
Geographical area(s) of implementation:	Demersal fishing grounds, either managed or with a fishing ban, in the coast of Girona.
Target beneficiaries:	the coastal bottom trawling sector, the social fabric generated by them and, above all, the public resources affected.

Duration:	all fishermen's organizations agreements are on-going. In the intention of promoters, their duration will be In Eternum
Overall budget:	A scientific monitoring program is being executed to assess the state of the exploited populations with a total annual cost of 150,000 EUR
Summary of the project:	The project is a fishing sector initiative. The proposal sent to the Catalan Fisheries Administration identifies fishing areas in the coast of Girona that the fishing sector would like to be carefully managed. The biological and ecosystem characteristics of the fishing grounds have significant value in terms of reproduction and/or spawning. For all of them, the industry has introduced several measures to reduce fishing effort, increase selectivity and control access to resources. All the measures were agreed with the fishermen's organizations involved and acknowledged by the General Board of the Territorial Federation of Fishermen's Organizations of Girona. The main management measures approved and under implementation are: i) rules to reduce and/or restrict fishing effort: decreasing the number of operations of the fishing gear per day or per fishing ground; ii) the incorporation of technical measures to improve selectivity and/or reduce environmental impact: more restrictive technical measures (type of gear, mesh size, dimension, type of otter trawl doors); iii) access control regulations: census of authorized fleet; iv) temporal limitation for the fishing activity: temporary closures areas to protect juveniles and reduction of total fishing time per day; v) adaptive and multi-stakeholder management: active participation of the agents involved in the regulation of the activity. These measures fully comply with the general goal of conservation and aim to reduce fishing pressure to adjust the capacity of fleets to the state of the resource, and balance environmental sustainability of the fishing grounds with the best long-term economic performance.
Results achieved:	i) improvement in the relations among fishermen; ii) better quality of the product sold (larger sizes, better pre-sale maintenance conditions); iii) reduction of physical impact on the grounds; iv) improvement in the biomass of harvested stocks; v) better economic efficiency; vi) involvement of the fishing sector in the decision-making process.
Strengths:	• due to the current state of harvested stocks and the uncertain future of fisheries in the Mediterranean Sea, the fishing sector will benefit from protection of the resources and the improved management; • the project provides stable jobs, improves the profitability of the sector preventing it from disappearing, and strengthens fishing as an activity with high cultural and heritage value; • all agreements subscribed improve the condition of demersal resources allowing the restoration and maintenance of the harvested stocks; • the most innovative element of the project is the creation of a multidisciplinary Working Group in which, scientific community, public administrations, NGOs and the fishing sector sit together, discuss, share, learn, make consensus and, finally, make binding decisions; • wide range of data (e.g. sales statistics, CPUE, scientific monitoring, structure of the caught populations, geo-referenced fishing grounds and density maps, fishing days by boat, etc.); • it is a fully replicable model on a higher scale, incorporating co-management as a model of success in Multi-Annual Plans of the European Commission.
Challenges:	• reaching a sustainable exploitation of the fishery resources in the long term while ensuring the economic viability of fishers and their associations;
Lessons learnt/ recommendations:	• science results need to be reliable and easily understandable by all stakeholders; • participants need to reach a trustable relationship along the decision-making process

Sources of information:

GAP2 project: http://gap2.eu/case-studies/case-study-10/

Palamós red shrimp Management Plan: http://agricultura.gencat.cat/ca/ambits/pesca/dar_especies_calador_mediterrani/plans-gestio-cogestio/pla-gestio-gamba-palamos/

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3. FISHING GOVERNANCE IN MPAS: POTENTIALITIES FOR BLUE ECONOMY- FISHMPABLUE2



Blue Economy sector:	FISHERIE AND AQUACULTURE (mainly on small-scale fishery)
Objective(s) of the project:	Provide specific guidance - through testing a governance toolkit, capacity-building for end users (Mediterranean Protected Areas managers and local fishermen) and policy recommendations - in order to set up fishery management models which allow protected areas management bodies preserving marine ecosystems and species, assuring a sustainable exploitation of marine resources, and as such the sustainability of small scale fisheries in and around Med MPAs.
Project promoters:	Federparchi - Europarc Italy
Project Partners:	IUCN Med (Spain), ECOMERS (France), WWF Med (Italy), CONISMA (Italy), MedPAN (France), APAM (France), WWF Adria (Croatia)
Geographical area(s) of implementation:	Italy, Spain, France, Slovenia, Croatia, Greece
Target beneficiaries:	Marine Protected Areas (MPAs) managing bodies and small-scale fishers
Duration:	3 years (ongoing)
Overall budget:	3.500.000 EUR

Summary of the project:	The FishMPABlue2 project is the follow-up of the FishMPABlue project (July 2014-June 2015) funded by Interreg MED Programme. FishMPABlue had carried out an analysis of the management of small-scale fisheries (SSF) within and around a set of Mediterranean MPAs and developed a "regional-based governance toolkit" to strengthen the capacity of SSF in MPAs management. The FishMPABlue2 Project aims to test this toolkit and demonstrate its effectiveness. More specifically, the FishMPABlue project had highlighted that fish stocks are healthier, fishermen incomes higher and social acceptance of management practices stronger (in other words, a successful management of SSF is reached) if a set of attributes is present in the MPAs, among which: regulation enforcement, presence of a management plan, fishermen engagement in MPAs management, fishermen representatives in the MPAs board and promotion of sustainable fishing. The aim of FishMPABlue2 is to test the toolkit developed in FishMPABlue through several pilot actions to assess and quantify its capacity in achieving the expected results, namely MPAs ecological effectiveness, benefits delivered to SSF and stakeholders' acceptance of management measures. Eleven pilot MPAs located in six Med countries (Spain, France, Italy, Slovenia, Croatia and Greece) were selected during the FishMPABlue project as they illustrate most of the management conditions existing in the Mediterranean basin so particularly adapt to test the effects of an important number of governance tools in an integrated way. In the first phase, testing will be carried out by engaging MPAs management bodies and local small-scale fishermen in the establishment of "Local Governance Clusters-LGCs". Identified governance tools will be implemented in each pilot MPA by the LGCs under the coordination of the MPA managing body and with the "coaching" of relevant project partners. In this phase, a scientific monitoring will be carried out both before and after implementing the governance tools, in order to measure the ecological, economic and social status of the MPAs and the potential effect of the governance tools. In a last phase, testing results will be transferred and discussed among the LGCs of the pilot MPAs in order to upgrade the tested "Governance Toolkit"; this will allow the project partners preparing a new version of the "governance toolkit" and sharing it with other MPAs in the Mediterranean. In parallel, a know-how exchange activity involving the eleven pilot MPAs will be carried out, in order to capitalize on, exchange and transfer the results of the implementation through communication tools and several cross-fertilization formats where the partners will be able to share common challenges and solutions.
Results achieved:	i) in each pilot MPA, establishment of a "Local Governance Cluster - LGC" composed of MPAs managing bodies and small-scale fishermen; ii) eleven pilot projects' "implementation plans" adopted and implemented with a selection of tools including the «Small-Scale Fishery Governance Toolkit» ; ii) capacity building: 2 trainings (on ecological-socio-economic monitoring of SSF, and SSF governance measures), 3 exchange visits between pilot MPAs and other MPAs; iii) monitoring campaigns for comparing the environmental-socio-economic status of SSF in each pilot MPA before and after the toolkit testing so to assess the benefits of the tested measures; iv) the "Small-Scale Fishery Governance Toolkit": five steps for a successful governance system of SSF (enforcement, fishermen engaged in MPAs activities and Boards, incentive for sustainable fishing, and management plan); a list of ready-to-use management measures to reduce the catching pressure on halieutic resources.
Strengths:	• actual involvement of fishermen in selecting the management measures to be tested within a win-win cooperation between small-scale fishermen and MPAs managing bodies; • contribution to the improvement of the socio-economic conditions of the SSF sector - declining from the economic (lower incomes) and social (ageing) point of view - by means of actions aimed to strengthen the economic value of their products (e.g. valorization of local fish species) and diversify their commercial offer (e.g. pesca-turismo); • increased capacity of MPAs' managing bodies in governing SSF, including better relationship with fishermen, more solid surveillance and monitoring capacities, etc.; • reduced fishing efforts, which increase environmental conservation and fish stocks;

	• huge amount of data and information whose process provides an updated picture of SSF in the Mediterranean region; • the "Small-Scale Fishermen Governance Toolkit" as a tool applicable to any MPA in the Mediterranean region and disseminated through devoted tools (e.g. the small-scale fishermen online platform); the upscale of such tool is undergoing with definition of policy principles to be proposed to national governments.
Challenges:	• the project did not tackle the problem of recreational fishermen, which are competitors to artisanal (i.e. professional) fishermen; • one-year project implementation is not enough to see the benefits on the environment (biological cycles need more time); • a real "added value chain" to the SSF has not been tested; • limited impact on recreational fishery;
Lessons learnt/ recommendations:	• solutions must be always tested in the field to check its feasibility and effectiveness; • for the conservation of the environment and biodiversity is crucial to involve the drivers of pressures (in this case, fishermen) in the planning and management of MPAs and convert them in "allies", especially by supporting them through alternative sources of incomes (e.g. marine environment monitoring, environmental education, fishery-tourism, involvement in MPAs patrolling activities, valorization of local fish products, etc.); • for real "co-management" of SSF in MPAs, juridical adjustments of MPAs managing bodies powers are suggested; • the "value chain approach" in MPAs helps exploit the potential of SSF in creating jobs and attract national/international investments; • FishMAPBlue2 could be replicated in those countries where dialogue between MPAs managing bodies and local small-scale fishermen is already developed; if not, the "Small-Scale fishery Governance Toolkit" could be of help; • FishMPABlue2 might achieve bigger results in the countries where it operates now if the law allowed fishermen's representation in MPAs decision-making processes, and if integrated policies would be drafted jointly by MPAs and fishery-related authorities.

Sources of information:

https://fishmpablue-2.interreg-med.eu/

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4. MINOUW - TECHNOLOGY AND SOCIETY INITIATIVE TO MINIMIZE UNWANTED CATCHES IN EUROPEAN FISHERIES

MINOUW



Blue Economy sector:	FISHERIES AND AQUACULTURE
Objective(s) of the project:	To minimize unwanted catches by incentivizing the adoption of fishing technologies and practices that reduce pre-harvest mortality and post-harvest discards, while avoiding damage to sensitive marine species and habitats.
Project promoters:	European Commission, H2020
Project Partners:	CSIC, CNR, Univ. of Iceland, WWF Mediterranean Programme, Balearic Islands Government, CCMAR, IMR, CIBM, HCMR, Univ. Basque Country, NISEA, Univ. of York, IOLR, Univ. Helsinki
Geographical area(s) of implementation:	Southern European Waters
Target beneficiaries:	Fishing industry, fisheries stakeholders
Duration:	March 2015-February 2019
Overall budget:	6,239,622.38 EUR

Summary of the project:	Sustainable fishery is a key aspect for the rational exploitation of European marine natural resources. Among the regulations enshrined in the reformed Common Fisheries Policy (EU Reg. 1380/2013), Article 15 establishes the progressive obligation to land all catches of regulated species in different phases in the period 2015-2019 ("Landing Obligation"). The MINOUW project is a Research and Innovation Action of the H2020 Programme addressing the complexity of the problem of implementing the Landing Obligation from the scientific, technical, economic and societal perspectives. The strategy followed is based on a multi-actor approach, whereby scientists, technicians, fishermen, producers and NGOs collaborate to provide the scientific and technical basis for the gradual elimination of discards. Catches of unwanted fractions of target fisheries species can be large in demersal fisheries (particularly those using bottom trawls), but the magnitude varies according to the season of the year, depth and the fishery practice. In periods of high abundance of recruits, bottom trawling on fish nursery areas can generate large amounts of unwanted catches that are usually discarded for legal reasons (undersize specimens or catches over quota). The project followed a structured multi-actor approach where fishers, fisheries stakeholders, scientists and technologists jointly diagnosed the problem, agreed on a portfolio of practical solutions that were subject to field testing in commercial conditions, ranked the usefulness of the solutions under biological, social and economic criteria, and made recommendations for their adoption.
Results achieved:	The project has carried out field tests of fishing technologies aiming at reducing unwanted by-catch, jointly developed with fishermen and tested in real commercial conditions. The results show that it is possible to decrease unwanted by-catch by changing fishing procedures, for example in purse seine fishing, or by adopting more selective nets in bottom trawl or in set nets. New types of sorting grids specifically designed for Mediterranean trawls have proved effective. In small scale fisheries, a guarding net fitted to the footrope of the trammel net can reduce unwanted by-catch as well as costs. In surface longline fisheries targeting swordfish, an important reduction in the catch rates of undersize swordfish was demonstrated. In addition to technological solutions, the project has progressed in researching technologies to avoid unwanted catches: the project is developing a GIS tool by combining maps of potential high discards with 'fisheries footprint' spatial information that can assist in marine spatial planning to exclude fishing from certain areas with high potential of production of unwanted catches. The post-release survival of unwanted catches has been researched in different commercial species and types of fishing, by way of experiments following standard methodologies. Demonstrated high survival of discards can be used to justify an exemption to the Landings Obligation for specific regulated species. All project results are being communicated to the industry, policy makers, fisheries managers and other relevant stakeholders by means of communication actions. Communication activities included the organization of joint meetings with MEDAC (representing the fishing industry in the Mediterranean), the GFCM, the organization of fishermen's exchanges to promote the horizontal communication of results between peers and the production of short video films highlighting the project's results to a wider audience. The project scientific contributions are complemented with bio-economic analyses of the impact of the Landing Obligation at the level of individual fisheries, ecosystem and processing industry.
Strengths:	• the project identified feasible solutions to minimize discards; • enhancing fishing opportunities, and increasing the competitiveness of the Mediterranean fishing industry in the long term by decreasing fishing mortality on juveniles; • the project works towards sustainable fishery in the framework of the Common Fisheries Policy by making stocks levels compatible with the production of maximum sustainable yield; • if adopted by the fishing industry, the solutions proposed by the project, and tested in commercial conditions, would help reverse the currently degraded state of fishery resources; • effective, low-cost fish selective technologies have been devised by the project;

	• processed data available both in scientific publications and in the project's web page; • the structured multi-actor approach applied in the project is replicable in other case studies; • large potential for replicability in different contexts if financial incentives are put in place for the adoption of the solutions proposed.
Challenges:	• application of the proposed solutions in different pilot sites due to reluctance of fishermen to adopt changes; • feasible technological solutions are low-tech and do not have the large socio-economic impact desired; • institutional and social gaps and bottlenecks for better fisheries exploitation and conservation of sensitive habitats or charismatic species could not be fully addressed by the project; • project data are not organized in an easily accessible data base; • decisions taken by fishermen in pilot sites are not always perceived as binding by the industry sector; • identifying solutions, testing them in the field and analyzing the results is a lengthy process.
Lessons learnt/ recommendations:	• fishermen are the stewards of marine resources, and they have direct interest in pursuing the sustainability of their activities. While they tend to be resistant to innovation imposed from outside, they are not against innovation as such. Far from being the problem, they are integral part of the solution by leading the efforts towards sustainability; • fishery managers are well placed to promote multi-stakeholders' solutions for keeping fishing mortality within sustainable levels and rebuilding the biomass of diminished stocks. They need to resist the pressure of industry to adopt measures focused on short-term profits and be ready to work closely with other actors to ensure the human/financial resources needed for monitoring and control, capacity-building and awareness campaigns; • scientists and experts have a key role in minimizing discards by gathering and rigorously analyzing data to understand current trends, developing innovative selective fishing gears or sustainable practices in close collaboration with fishermen; • it is very unlikely that new jobs will be created within the fishing industry since the trend is towards automatization. However, the valorization of discards by other industries might lead to new jobs and onshore investments; • means for enforcing the existing regulation are needed; • underfunded and understaffed fisheries management agencies cannot promote the implementation of innovative solutions against overfishing. Public incentives should be put in place to attract investments from private technological companies since the Mediterranean fishing industry is mainly composed of micro-companies with very low capability of investment.

Sources of information:

http://minouw-project.eu

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5. PORT MUSEUM OF TRICASE

PORT MUSEUM OF TRICASE



Blue Economy sector:	FISHERIES AND AQUACULTURE
Objective(s) of the project:	Promote the sustainable socio-economic development of coastal communities
Project promoters:	CIHEAM Bari
Project Partners:	Municipality of Tricase, Magna Grecia Mare Association (organization manager), University of Salento and Regional Park «Costa Otranto - S. Maria di Leuca e Bosco di Tricase
Geographical area(s) of implementation:	Tricase, Salento area (Italy)
Target beneficiaries:	coastal community, in particular fishermen
Duration:	on-going
Overall budget:	N/A

Summary of the project:	Tricase is a small coastal town located at the southern tip of the Italian peninsula heel (Salento, Italy). Its fishing community has 12 small boats (1.5 GT on average), using static gears. Catches of different species follow seasonal calendar and the small-scale ensures high level of sustainability together with good profits. The project is built on the assumption that it is crucial to support Mediterranean coastal communities as outposts for mitigating poverty conditions, environmental impacts and migration. Since 1400, Tricase small coastal town has been known for its rich and extensive commercial and fishing traffic. Its caves represented what we would define today primary logistic infrastructures (e.g. places for the first storage of goods both for landing and embarkation, office surveillance by security guards). It is a port with efficient infrastructures, which produced a strong spill-over effect in the feudal system of lower Salento. At the end of the twentieth century, the Tricase fishing community experienced a long period of economic and social crisis, characterized by the decline of fishing activities in terms of productivity, employment and profitability. Since 2007, in partnership with local actors, CIHEAM Bari has engaged to support the social and economic development of the fishing community and the environmental safeguard of natural and cultural resources. In these years, through the implementation of several projects, it has been possible to expand the scientific and institutional partnership and contributing to build, as pieces of a jigsaw puzzle, a virtuous territorial development model in line with the blue economy principles. The model is based on the recognition of Social and Cultural Districts (Porter diamond approach) as paradigm of local development, where the traditional fishing boats and activities (i.e.: ancient crafts), the life in the ancient fishing villages, the fishermen traditions (as recipes) and stories, together with the enhancement of natural heritage (as caves and biodiversity), become drivers of inclusive and durable development. The Port Museum of Tricase (www.portomuseotricase.org) is perhaps one of the few models of economic, social and environmental growth applied to a coastal community that has developed around its port, sea, coastal territory and people, who have always lived between sea and land. The Port Museum operates through the following components: i) permanent cultural center on ancient traditions for the research, collection and improved knowledge of the traditions of the sea and its coastal population; ii) museum of sea art and traditional boats represented by boats rescued from the fire or obsolescence and historical fishing boats (“varche” and “schifareddhi”) carefully restored and returned to navigation; iii) municipal school of lateen sailing and ancient seafaring for training on ancient techniques of navigation, seamanship, care of the boat, cooking traditions, life of coastal populations; iv) «Rena e le Sette Bocche» , which consists of an Info Point, a Slow Sea Center and a Food-Show-Market center located in the ancient recovered caves; v) media-library to provide all visitors with the opportunity to read books, consult texts and documents, see photos and watch videos, listen to interviews, have a better insight in all the issues related to the sea and its traditions with the help of direct sources; vi) yard of taste for the research, experimentation, and offering of the ancient and traditional recipes of sea, and land products processing and preservation; vii) Mediterranean «MARE» Outpost for the research and monitoring of marine and coastal biodiversity. The approach (Porter diamond) used in the initiative is part of the CIHEAM CAPMED 2025 Strategy and adaptable to other Mediterranean coastal communities as able to identify the vocation of each coastal community and, on such basis, suggests tailored interventions for supporting its sustainable development.
Results achieved:	The work performed at Tricase in these years is positive, and it encourages to adapting the model to other coastal communities. In fact, the fishermen community in Tricase is bucking the trend and the number of fishermen (especially young fishermen) is increasing. Thanks to the various activities introduced in the community - such as like diversification of economic activities, direct selling, enhancement of tangible and intangible maritime cultural heritage (within the Porto Museo brand) and collaboration with other production sectors (tourism, agriculture, handicrafts, restaurants, etc.) - fishermen invest again in small-scale fishery by involving also their families (women and youth) and obtain the best return from fishery products and activities. Since the establishment of Port Museum, the following social and economic impact on the small-scale fisheries has been observed: i) five young fishermen started fishery activity; ii) ten women involved in the diversification of economic activities; iii) three fishing tourism activities and one Ichthyic-tourism started (open all year round). Moreover, the members of the coastal community have started many activities that contribute to enhance state of the fishery sectors thanks to the improvement of the social and economic conditions of the small-scale fishing community. Currently, more than one-hundred people work in the following new activities: restaurants, lounge bars, nautical yards, diving and/or sailing schools, bed & breakfasts, hotels, cultural associations, and sports associations.

Strengths:	• Local communities' empowerment for the management and safeguard of the marine and coastal natural resources and ecosystems through strong inter-sectorial integration and social inclusion as a strategy for reducing overexploitation of natural resources; • diversification of fishermen economic activities (fishing tourism and Ichthyic tourism); • direct involvement of fishermen's families in the economic activity; • enhancement of the tangible and intangible maritime cultural heritage (within the Port Museum brand) and strong collaboration of the small-scale fisheries with the other production sectors (tourism, agriculture, handicrafts, restaurants, etc.) promoted in the framework of other projects.
Challenges:	• enhancing the capability of fishermen in their new role of economic operator within the diversification of their economic activity; • strengthening the awareness of all community members around the concept of Port Museum; • improving the tourist attractiveness of the community and build the skills of their members.
Lessons learnt/ recommendations:	• coastal communities are often «socio-cultural outposts» able to contribute to the objectives of the regional and international agenda for the reduction of poverty and the protection of natural resources according to ecological and economic logics; • when targeting the improvement of the livelihood of the coastal community members, it is crucial to consider also intangible aspects rather than focusing only on economic and environmental performance indexes; • incentivize multi-stakeholder learning by sharing the technical know-how of productive sectors (e.g. small-scale fishery, aquaculture, tourism and related ecosystem service); • development models must be coherent with national strategies for the development of coastal areas/sectors but also read the aspirations of coastal communities, ensure coherence, prioritize needs, monitor and mitigate environmental and social impacts, and promoting continuous North-South/South-South technical exchanges and dialogue.

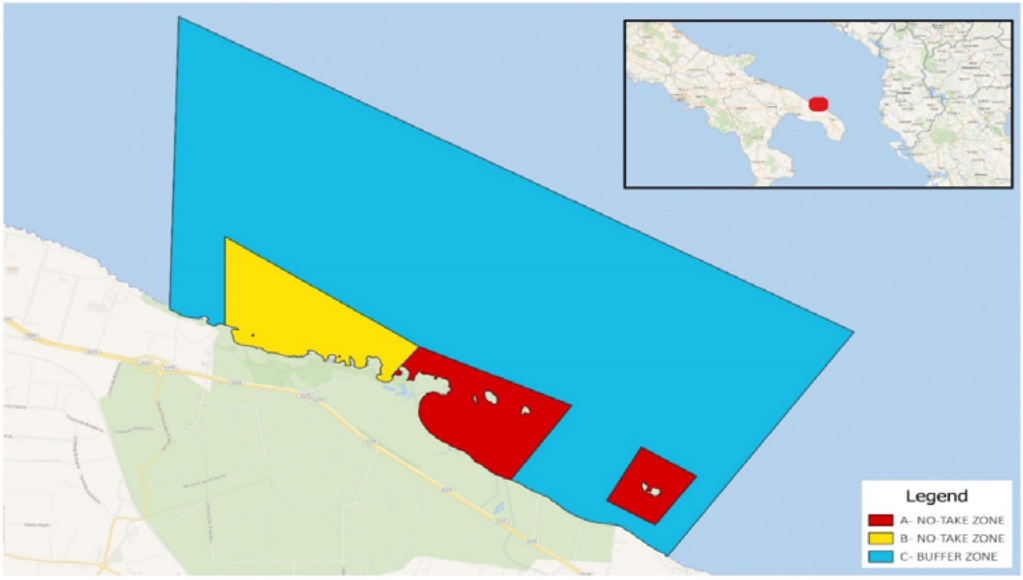
Sources of information:

http://www.portomuseotricase.org/index.php/it/il-porto-museo/il-porto-museo-di-tricase

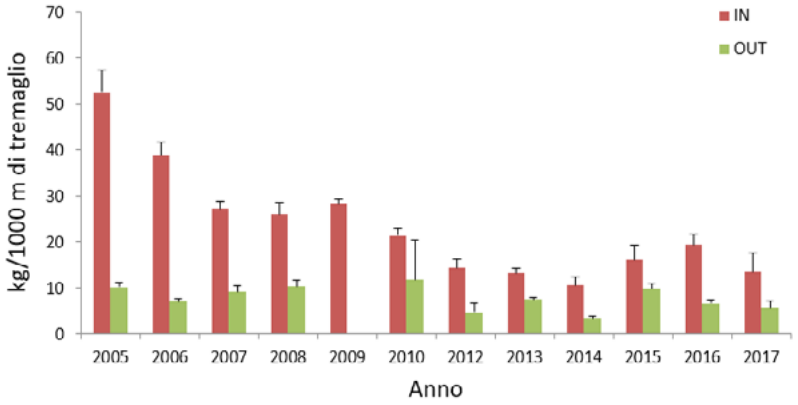
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6. ENGAGING FISHING COMMUNITIES IN MPA MANAGEMENT - TORRE GUACETO MARINE PROTECTED AREA

Consorzio di Gestione di Torre Guaceto
Area Marina Protetta • Riserva Naturale dello Stato



Blue Economy sector:	FISHERIES AND AQUACULTURE
Objective(s) of the project:	i) Engaging the Small-Scale Fishery (SSF) sector in Marine Protected Ares (MPAs) management; ii) Reduce the fishing effort; iii) Ensure persistence of traditional culture of SSF
Project promoters:	MPA Management Board
Project Partners:	Fishing communities
Geographical area(s) of implementation:	Marine Protected Area of Torre Guaceto, ITALY
Target beneficiaries:	Fishing communities
Duration:	From 2005 (on-going)
Overall budget:	N/A

Summary of the project:	The experience of Torre Guaceto Marine Protected Area (hereafter called TGMPA) is one of the few examples in the Mediterranean context, but not only, demonstrating that it is possible to successfully involve traditional fisheries into MPAs management programs. The TGMPA was formally declared in 1991, a management body, formed by WWF Italy and two local municipalities, started operating in 1999-2000, when management and enforcement of the area became effective. The site where the TGMPA was established is a stretch of coast where traditional fishermen had been working for generations. Fishermen felt the moral right to exploit the area, so when the MPA was enforced they had the feeling to have been deprived of such right. In the period 2000-2001, all fishing activities were banned in the MPA, something which caused violent frictions between local fishermen, MPA authorities and police bodies (e.g. coast guard). Under the scientific supervision of a research institute, a regulated fishing activity, based on an agreement between fishermen and TGMPA authorities, was opened in 2005 in part of the buffer zone surrounding the two TGMPA's no-take zones. Fishermen participation to the adaptive co-management program was on voluntary basis, they were invited to share decisions with the MPA authorities about how managing fishing activities. A scientific institute was invited to scientifically supervise the monitoring program. Fishermen who adhered to the co-management protocol (initially only seven) were authorized to fish. Since the beginning, fishing effort was set up and gears selected in order to limit the impact on key fish predators, juvenile stages, and benthic communities and habitats. Fishermen accepted to fish only in a part of the buffer zones using shorter trammel nets (1 km long vs 2-3 km) and larger mesh (3 vs 2.4 cm), and hauling the nets only once per week. Within an adaptive framework, fishermen also agreed to reduce fishing effort if symptoms of overfishing were detected from the scientific monitoring of fishery yields (total and per species) and catch composition. Scientific monitoring from 2005 to 2010 was therefore carried out, that helped manage fishing activities year by year.
Results achieved:	Data collected supported several interesting evidences, but the more the most straightforward result was that catches were an average of 2-4 times higher inside the buffer zones of the TGMPA than outside (Figure below).  In recent years, several fishermen that initially did not accept to join the program, asked to be part in it. Overall, fishermen working on 11 boats were involved in fishery co-management of the TGMPA. On one side, the interest of other fishermen represents an extraordinary signal of success though this would cause an increase of the overall fishing effort. The management body will have to find a solution to this 'side-effect'. Regarding fishermen working in the TGMPA area, they used to compete to access and get the same fishery resources. The first step then was to start changing their cultural approach to fishing (and towards the other fishermen) by convincing them that that collaboration for moderately exploiting fishing stocks is essential to avoid depleting local available resources. The reason why fishermen were involved from the beginning in the program and invited to participate to seminars (specifically shaped for such audience) was to increase their awareness that a more remunerative and sustainable approach to fishing is possible.

	From this point of view, it was clear that the chances of success of the program were strictly related to the collaboration and involvement of fishermen in the TGMPA management. This continuous work of exchange with fishermen allowed defining a shared roadmap to activate the procedures for enlarging the MPA and its inclusion in the Natura 2000 Network.
Strengths:	• acceptable balance between conservation and exploitation of fish stocks; • consolidated partnership with the local artisanal fishermen allowed identifying a common path for the enlargement of the marine reserve, in order to guarantee a better conservation of the Natura 2000 habitats, safeguarding small-scale fishing; • the sustainability of the project is ensured since the agreement with fishermen is included in the Regulations of the MPA; • fishermen agreed voluntary to reduce their fishing efforts; • fishing efforts monitoring is well designed and efficiently applied; • the monitoring of fishing efforts elaborated with fishermen was used in the scientific reports to support the request of enlargement of the MPA; • fishermen have organized themselves into a community inserted into the Slow Food TERRAMADRE Community. In 2017, they became a "Slow Food Presidio"; • a project is underway to build a transformation manufactory for poorer species; • MPA staff and fishermen meet every year to review the monitoring results and discuss eventual need for changes in the fishing agreement for the following year; • model easily applicable to the fishing communities in other Mediterranean MPAs; • agreement between the fishermen, the managing body and a local fish processing company to process, preserve in oil and finally sell mullet production at a fair and profitable price.
Challenges:	• The next step is to guarantee a real economic gain linked with the use of Slowfood label, ensuring a transformation chain of the fresh product • maintaining the small-scale coastal fishing sector with the involvement of the new generations • Adoption of sustainable fishing protocol in the surroundings of the MPA, where a Marine Natura 2000 site is present, to be included it as buffer zone of the MPA
Lessons learnt/ recommendations:	• building a relationship of trust with fishermen represents a crucial task to be cultivated day by day. It is crucial to offer fishermen clear objectives and tangible results, which demonstrate the interest of the MPA to safeguard small-scale fisheries with a view to sustainability.

Sources of information:

www.riservaditorreguaceto.it

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7. CLEAN MARINAS



Blue Economy sector:	MARITIME TRANSPORTS AND PORT ACTIVITIES
Objective(s) of the project:	to have an excellence in the sustainable management of marinas
Project promoters:	UPACA (Union des Ports de Plaisance Provence-Alpes-Côte d'Azur et Monaco), which is the promoter of the certification, with the support of the Regional Council of Provence Alpes Côte d'Azur and other Regions.
Project Partners:	In Provence Alpes Côte d'Azur, different partners work with UPACA (Région Sud, Agence de l'eau, DREAL, ADEME, DIRM).
Geographical area(s) of implementation:	Europe
Target beneficiaries:	marinas' managers (public or private), and users (boaters, inhabitants of coastal towns, boating professionals, tourists, etc.).
Duration:	The 2008 French certification no longer exists; it has been replaced by in December 2011 by the European one). So, the certification was already there.
Overall budget:	the setting up of the European "Clean Marinas" certification required around 200.000 EUR

Summary of the project:	Unique in Europe and specific to marinas, the European «Clean Marinas» certification acknowledges the excellence in their sustainable management. Prior to the certification process, the managers of the "candidate" marina are required to control the chronic and accidental pollution, the waste resulting from the activities of the marina and pay attention to water and energy saving. There are compulsory steps to undertake before the certification audit, such as : i) running a diagnostic study of the pollutants and waste streams produced by, or transiting through, the marina; ii) adopting measures to combat recurring pollution (e.g. setting up an equipment to collect, sort and treat wastes and effluents); iii) undertaking actions for fighting accidental pollution (e.g. plans and/or kits of intervention); iv) promoting energy and water savings; v) organizing trainings for the managers and staff as well as activities of sensibilization for the users of the marina. The marinas, which have gone throughout the process, will have their practices audited by an independent organization (AFNOR in France). This guarantees a total independence in the decision and, as such, assigns an additional value to the certification. The price of the certification is adapted to the size of the marinas. Certified marinas are easily recognizable thanks to a "Clean Marina" flag at the Marina Master's Office.
Results achieved:	Since 2012, 72 marinas have achieved the certification, out of which 56 in Provence Alpes Côte d'Azur.
Strengths:	• marinas, which demonstrate environmental excellence through the certification, show direct/indirect positive impacts in all associated socio-economic sectors (tourism, trade, hotels, pleasure, fishing, professional boating, etc.); • in Provence Alpes Côte d'Azur, the certification "Clean Marina" is the obligatory prerequisite to engage into the Charter for the Sustainable Development of marinas; • between 10 and 15 jobs created per year; • prevention of environmental degradation through the fight against chronic and accidental pollution; • savings of water and energy through photovoltaic panels, software for the detection of leaks, smart terminals, etc.; • marinas foster innovation since any technical innovation, in line with the certification approach and respectful of the existing legislation, can be tested; • data availability about administrative (e.g. waste register, waste treatment plan, environmental policy statements, etc.) and technical issues (e.g. equipment available). A website visualizes all certified ports; • replicability potential in all French and European marinas.
Challenges:	• transform "Clean Marinas" from European certification into a global standard; • introduce national upgrades for those marinas particularly active in biodiversity conservation; • convince cities and industries operating in the "Clean Marinas" watershed to put in place systems to prevent solid waste and polluted effluents reaching the marina and thus the sea.
Lessons learnt/ recommendations:	• marina managers and associated professional organizations should take the lead in the certification processes; • grasp all the opportunity to gain more visibility vis-à-vis institutions and general public.

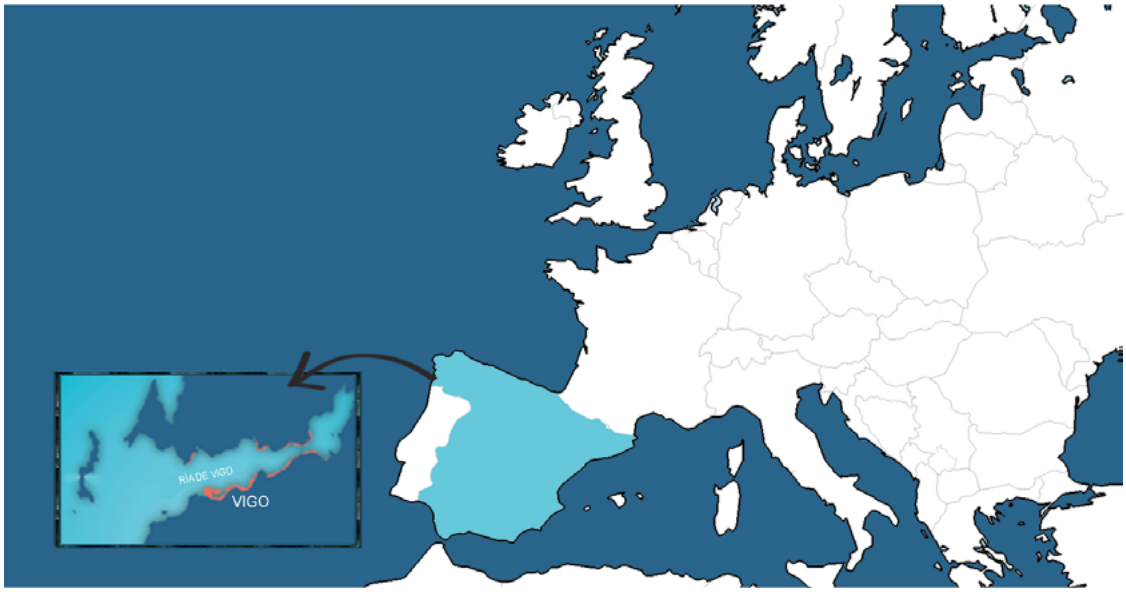
Sources of information:

www.portspropres.org ; www.upaca.com

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8. BLUE GROWTH PORT OF VIGO



Blue Economy sector:	MARITIME TRANSPORTS AND PORT ACTIVITIES
Objective(s) of the project:	The Port of Vigo makes its own the Blue Growth European proposal, and aspires to position itself as a model of **competitiveness, efficiency**, and **sustainability** in all its activities, facilities, and services. These three horizontal principles rely on four vertical dimensions, which are there to channel the Projects and Actions. They are the following: i) a **connected port** in the broad sense, not only regarding the means and infrastructures of maritime and intermodal transportation, but also through digitized industrial and logistics processes, information and communication technologies, and an efficient management and administrative processing, key link with the end user; ii) an **innovative port** taking part in an ecosystem devoted to knowledge and its transfer, R&D&I, entrepreneurship, and differentiating commercial strategies; iii) a **green port** promoting the maritime and coastal environments protection and preservation, the responsible use of natural resources, and energy efficiency and sustainability; iv) an **inclusive port** focusing on the people and involved with the new professional training needs, the productive cohesion between the sea-related sectors, and social innovation actions.
Project promoters:	The Port of Vigo, Ports of State Authority, Secretary General of Fisheries, the Galician Regional Fisheries Ministry, the Galician Agency for Innovation, the Campus do Mar (joint research institutions and universities managed from the University of Vigo), and the Free Trade Zone Consortium of Vigo.
Project Partners:	The Blue Growth Vigo plan consists of 45 projects that contribute to the achievement of its objectives; each project has several and different partners (public and private), which represent of quadruple helix.
Geographical area(s) of implementation:	Hinterland of Port of Vigo (Galicia, NW Spain)

<table>
<tr><td>Target beneficiaries:</td><td>The maritime sector and coastal communities</td></tr>
<tr><td>Duration:</td><td>On-going (2016-2022)</td></tr>
<tr><td>Overall budget:</td><td>207.307 EUR (from public and private sources).</td></tr>
<tr><td>Summary of the project:</td><td>The Blue Growth strategy was launched by the European Commission in 2012 after acknowledging the importance of the oceans in the EU economy. That strategy is part of the Europe 2020 strategy and focuses on sectors that can generate sustainable marine economic activities. The Port of Vigo decided to implement the strategy, given its position as a hub of knowledge with high capacity to promote growth based on cross-cutting sectors, institutions and specialisations. In 2016, the Port of Vigo designed its own Blue Growth plan working together with the Port Authority, the Galician Regional Fisheries Ministry, the Galician Agency for Innovation, the Campus do Mar (joint research institutions and universities managed from the University of Vigo) and the Free Trade Zone Consortium of Vigo. The Blue Growth Vigo Plan is aligned with international, regional, national and local policies dealing with innovation, education, regional development and so on. The first step was to identify 14 thematic areas based on those already established by the Commission but applied to the case of the Port of Vigo, which are: fresh fishing, frozen fishing, level playing field, shipbuilding, marina, Motorways of the Sea, dry-port, administrative processing of cruise traffic, history, blue careers, blue technology and blue energy. More than 250 people, representing the ‘quadruple helix’ of innovation (administration, education and research, private sector and civil society) were invited to participate in identifying the challenges, projects and specific actions to be carried out by 2020. The main aim was to foster growth through innovation and competitiveness. In line with the identified thematic areas, there are currently up to 45 projects and 46 actions, all of which are integrated into four objectives, namely, to become an innovative, green, inclusive and connected Port. In July 2016, the Blue Growth Vigo Plan started being implemented under the leadership of the Port of Vigo Authority and supported by the partners mentioned above. Almost three years later, all stakeholders involved at the beginning of the process are still working on it, whilst others have joined. Best practices were identified to ensure the compliance of the projects and actions promoted in coastal areas with core blue economy principles. As a result, the following criteria were adopted: i) consultation with all the groups involved in the Blue Growth Vigo Plan to obtain their consent; ii) implementation of projects and specific actions; iii) meeting objectives and outcomes. The progress of the Blue Growth Vigo Plan has been measured since the beginning of the process; this is the only way to ensure its impact on economy, society and environment. A specific tool was designed for allowing stakeholders to have updated information about key performance indicators related to the objectives of the strategy. The tool is accessible to the public.</td></tr>
<tr><td>Results achieved:</td><td>The Blue Growth Vigo Plan has sparked great interest at national and international level, in particular with respect to the dynamics of its working groups and the process for its implementation:
<table>
<tr><th>State of projects</th><th>Nº of projects</th><th>Nº of projects / Total projects</th></tr>
<tr><td>Approved and under implementation
EU co-funding</td><td>16
5</td><td>36%</td></tr>
<tr><td>Submitted (waiting for resolution)</td><td>3</td><td>6%</td></tr>
<tr><td>To be submitted (preparing proposal)</td><td>6</td><td>13%</td></tr>
<tr><td>Funding search</td><td>20</td><td>45%</td></tr>
<tr><td>Active projects (approved, under implementation, submitted and under preparation)</td><td>25</td><td>55%</td></tr>
<tr><td>TOTAL</td><td colspan="2">45</td></tr>
<tr><td>People involved through working groups</td><td colspan="2">More than 300 from different economic sectors</td></tr>
</table>
These data are continuously updated, because the Blue Growth Vigo Plan is a living process in constant evolution.</td></tr>
</table>

Strengths:	• through a participatory processes, needs and projects are defined with the aim to improve the competitiveness and sustainability of the maritime-port sector; • the implementation of the Blue Growth Vigo Plan is achieving positive results both in social and environmental areas: jobs created, people trained, social innovation actions, GHG reduction, clean self-generated energy, surface of seabed regenerated, among others; • sustainability is ensured by stakeholders involvement, impact measurement and a solid structure that allows program management; • projects and specific actions related to the objective of becoming a "Green and Innovation Port" focus on sustainability, good management of natural resources and environment preservation; • the Blue Growth Vigo Plan involves more than 300 people from public and private entities from several sectors related to the maritime-port sector, and it seeks to improve their skills and strengthen their employability potential (165 people trained and 250 advised on maritime-fishery sectors); • a solid communication strategy to gain the support of all the stakeholders (e.g. municipality, the private sector, research centres and universities, etc.) by using social networks, plenary sessions, press releases and an open website which shows qualitative information; • the Blue Growth Vigo Plan has been designed through a methodology that can be replicated in any geographical context since based on knowledge, participation, implementation, monitoring and measuring;
Challenges:	• innovative technologies and business models are crucial to compete and promote growth in the maritime sector; • young people must adapt their professional profiles with respect to new technologies, IT tools, climate change issues, renewable energies, smart systems, etc.; • ports are great consumers of natural resources, so investments in renewable energies are crucial promote their self-sufficiency and zero emissions.
Lessons learnt/ recommendations:	• participatory approach must be ensured all through the process, and dynamization should be included in the action plan from the very beginning; • sustainability must be part of the design strategy in order to be successful and, as such, ensure stakeholders' involvement; • communication must be clear, transparent and continuous for a real involvement of stakeholders; • working towards the development of clean technology is an effective way to attract international investments; • building the capacity of young people both in new technologies and environmental issues is key to cover those vacancies in which new skills are demanded; • ports can play an important role in promoting private sector investments in clean technologies and, indirectly, create the need for new professional profiles and thus new jobs; • the experience of the Port of Vigo in other countries would be replicable only in presence of a multi-stakeholder approach, a solid communication plan and a deep analysis of the blue economy sectors and their respective challenges; • innovative financial tools should be designed to allow rapid and smooth projects implementation.

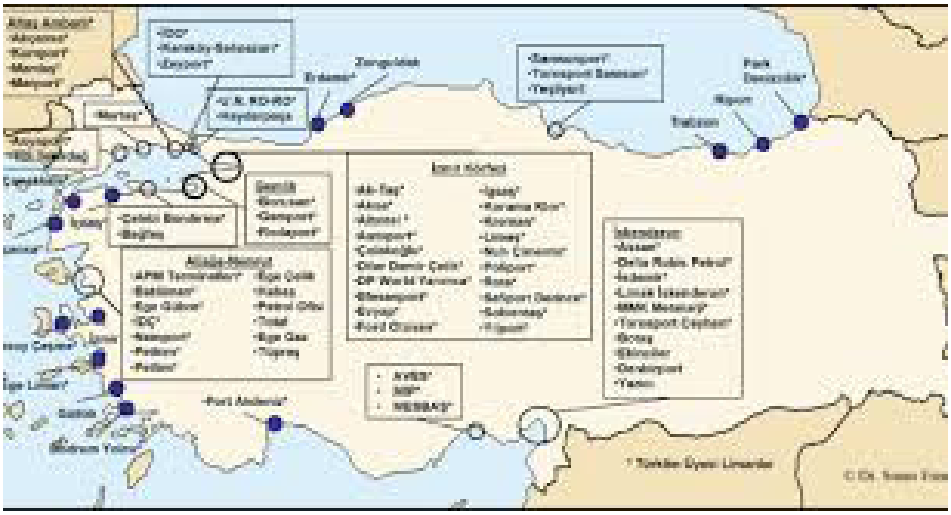
Sources of information:

Website: http://bluegrowthvigo.eu/en/
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9. GREEN PORT PROJECT OF TURKEY – GP PROJECT



Blue Economy sector:	MARITIME TRANSPORTS AND PORT ACTIVITIES
Objective(s) of the project:	During cargo handling operations in ports and harbours discharges and emissions can and do occur, often accidentally. In order to prevent and, to a certain extent, eliminate adverse environmental impacts, the "Green Port" (GP) project has been developed.
Project promoters:	General Directorate of Maritime Trade under the Ministry of Transportation, Communication and Maritime Affairs, and Turkish Standards Institution.
Project Partners:	N/A
Geographical area(s) of implementation:	Turkey
Target beneficiaries:	Seaports sectors
Duration:	until 2022
Overall budget:	N/A
Summary of the project:	Turkey has one of the longest coastlines in the EU and strategic geographic position. There are many major operational ports, such as Ambarli and Izmit port facilities. Both population and port traffic are high in Marmara region. Izmit Gulf is the major industrial, transport, and inland water region which is affected from shipping and port emissions with 37 ports and industrial plants. The environmental effects of port and shipping operations become more serious because of insufficient international rules and inspections.

	Especially in inland waters, canals, straits, gulfs, and port areas emissions effects on environment and health are more important. Ships are significant emissions sources in transportation sector. As it is well known, many ports are located near urban areas and restricted by the surrounding settlement, so ship and port operations adversely affect cities' life and people. In several ports located in Turkey marine sites, cargoes may include harmful substances including oil, liquefied gas, pesticides, industrial chemicals and fertilizers, where accidents may adversely impact the marine environment. During cargo handling operations in ports and harbours, discharges and emissions do occur accidentally: dry bulk (grain, coal, iron ore, china clay, etc.) produce dusts while liquid bulks requiring discharge through pipelines can cause leaks, emissions and spillages. Sources of atmospheric pollution can stem from cargo vapour emissions. Release of cargoes into the marine environment can have direct environmental effects, as in the case of the loss of toxic substances, or indirect effects, such as the loss of non-toxic organic-rich substances, which may result in oxygen depletion upon their breakdown. Since 2013, the GP project has been implemented on voluntarily basis. In order to get GP certification, which has a validity of three years, the conditions are: i) port operating license; ii) ISPS Code Compliance Certificate, in line with its security plan forwarded to the Ministry of Transport, Maritime Affairs and Communications; iii) TS EN ISO 9001 Quality Management System Certificate; iv) TS EN ISO 14001 Environmental Management System Certificate; v) TS 18001 occupational Health and Safety Management System Certificate; vi) Sectoral technical criteria; vii) Audıtor's technical report by the Turkish Standards Institution. The final aim is to enhance the competitiveness and to fulfill the current legislation on the protection of the environment. The "Green Port" application is expected to increase the environmentally friendly port facilities in Turkey.[8]
Results achieved:	In 2018, 16 port operators have been awarded with the Green Port certificate.
Strengths:	• GP project seeks to promote sustainable port operations by tackling important topics such as, waste generation, water quality, air pollution, energy consumption, noise pollution, shipborne pollution, occupational health and safety; • it is a comprehensive initiative comprising three main concepts: Health and Safety Management in seaports, Green Port Programme and Green Technology Programme; • GP project seeks to increase awareness about environmental challenges, Health and Safety compliance with legislation and achieve a high standard of environmental management.
Challenges:	• Since GP is not mandatory, the Ministry of Transportation, Communication and Maritime Affairs should encourage ports to apply ; • ports need high environmental performances to gain communities' support;
Lessons learnt/ recommendations:	• environmental sustainability is a decisive factor in the success of businesses. It is demanded by corporations and individuals, and is key to attract public investment funds; • ports authorities are more sensitive to environmental issues than often assumed, however, there is small chance of improve ports' sustainability through voluntary actions only; • there are three new aspects in ports operation: energy conservation, environmental protection, and ecology care.

Sources of information:
www.denizticareti.gov.tr

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8 Green port applications in EU countries are implemented through the Eco-Ports project, which is being carried out by ESPO (European Sea Ports Organization) since 2011. ESPO is composed of 23 EU countries and Norway as permanent members, Israel and Iceland as observer members. Currently, 93 ports are being monitored by ESPO under Eco-Ports project. The only Turkish port certified EcoPorts is ASYAPORT, which has been granted the PERS (Ports Environmental Review System) certificat.

10. ECO WAVE POWER GIBRALTAR POWER STATION





Blue Economy sector:	ENERGY
Objective(s) of the project:	create clean electricity, make scientific progress in wave energy development, create workplaces and new industry & receive awareness and recognition that wave energy can be a cost-efficient and reliable energy source within the renewable energy mix.
Project promoters:	Eco Wave Power (EWP)
Project Partners:	European Regional Development Fund, the Government of Gibraltar, Gibelectric.
Geographical area(s) of implementation:	Ammunition Jetty, Gibraltar. 36.07º N, 5.20º O
Target beneficiaries:	Gibraltar's citizens, scientific community, energy ministry & government
Duration:	2016-current (on-going).
Overall budget:	USD $450.000
Summary of the project:	Since 2016, EWP has been operating a 100kW wave energy array in Gibraltar. The station is the only grid-connected wave energy array in the world operating through a commercial PPA (Power Purchase Agreement). The station is the initial part of an overall 5MW PPA signed directly with the government of Gibraltar which is targeted to cover 15% of all Gibraltar's electricity needs, helping them to reach the 20% renewable energy EU´s target, with an independent, clean, reliable and cost-efficient technology. The 100Kw was co-funded by European Regional Development fund. Eco Wave Power is part of the SwitchMed initiative that supports and connects stakeholders to scale-up social and eco innovations in the Mediterranean.

Results achieved:	i) the system has been successfully operating and providing clean energy to Gibraltar's grid since 2016; ii) the station showcases the viability of EWP´s system by surpassing 15,000 grid connection hours, which sets a new world record for wave energy; iii) the project raised awareness about the potential of wave energy globally; iv) thanks to the 100KW station, Eco Wave Power accumulated projects pipe line for 160MW worldwide; v) significant scientific progress as a result of the R&D conducted in the power station, which will help the commercialization of wave energy worldwide in the future.
Strengths:	• the only grid-connected wave energy array in the world; • provide the scientific community with practical info about the wave energy sector, while the Government expands their renewable energy mix and attracts investments; • the station contributes to climate change mitigation, jobs creation and local investments; • it is a technology that will help Gibraltar to reduce its pollution from energy production and reach the EU's 20% renewable energy target; • the technology does not generate noise pollution, solid waste/wastewater, gaseous emissions and uses biodegradable hydraulic fluid; • the station protects the Ammunition Jetty in Gibraltar against coastal erosion; • if expanded, it will create new jobs in the field of construction and operation; • high level of data availability and transparency including statistics and maps; • the technology used is fully modular, namely it can be easily and efficiently replicated and scaled up as long as supported by policies, regulations, legislative steps and attractive feed-in tariffs to assist sector's commercialization.
Challenges:	• being a new source of renewable energy, many countries do not have policies in place and feed-in tariffs, which prevents commercialization and scalability efforts.
Lessons learnt/ recommendations:	• wave energy can potentially produce twice the amount of electricity that the world produces now, thus it will have huge impact on the future renewable energy mix; • Once supportive policies are in place, wave energy sector will grow significantly all over the world and will be able to have a critical impact on climate change mitigation; • Gibraltar's Government was very efficient in setting up PPA (power purchase agreement) related polices and feed-in tariffs for wave energy, which enabled a prompt execution of the first phase of the project

Sources of information:

https://www.ecowavepower.com; https://ec.europa.eu/regional_policy/en/projects/united-kingdom/ecowave-clean-reliable-wave-energy-for-gibraltar-uk

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11. RENEWABLE ENERGIES IN THE MARINE - COASTAL AREAS OF THE ADRIATIC IONIAN REGION – ENERCOAST



Blue Economy sector:	ENERGY - Renewable energy technologies in the coastal-marine environment
Objective(s) of the project:	The objectives of the projects are: i) state of the art of the renewable energy sector in the Adriatic-Ionian marine-coastal area (solar radiation, wind power, tidal current power, and sea water thermal energy to be used in heat pumps);ii) evaluate the existing installations of related technologies exploiting the mentioned sources ; iii) carry out a market analysis of the technologies useable for the exploitation of the above-mentioned resources ; iv) highlight the positive and negative environmental impacts of the technologies. As to the project's proposals: i) identify obstacles and solutions (technical and non-technical) to overcome such obstacles and facilitate the application of these innovative systems ; ii) elaborate a set of technical, economic, environmental and legislative orientations and proposals, to be used for the elaboration of future projects.
Project promoters:	Province of Rimini, Italy (Leading Partner)
Project Partners:	i) Cortea scrl, Italy: ii) Goriška Local Energy Agency Nova Gorica, Slovenia; iii) University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture, Croatia; iv) University of the Aegean, Department of Shipping, Trade and Transport, Greece.
Geographical area(s) of implementation:	The Adriatic-Ionian marine-coastal area
Target beneficiaries:	i) producers of renewable energy systems; ii) local bodies and administrations (e.g. port authorities, municipalities); iii) public and private providers of transport, recreation and tourism, education and health services.
Duration:	completed; July 2014-June 2015
Overall budget:	367,000.00 EUR

Summary of the project:	In coastal areas with intense tourist activity and port infrastructures, a high consumption of energy is registered, which may cause significant economic and environmental impacts. In this context, it is therefore strategic to introduce sustainable energy systems, reduce environmental impacts while setting a different approach to economic development. ENERCOAST, a project co-financed under the MED Programme, assessed the renewable energy sector through a deep analysis of available data and technologies for the exploitation of renewable energy sources in marine-coastal areas, and proposed technical and non-technical solutions to increase the use of such technologies through a transnational cooperation in the Adriatic-Ionian sub-region.
Results achieved:	i) report addressing the availability of renewable energy sources, existing installations and national/local legislation in each of the country involved; ii) report proposing future projects for the exploitation of renewable energy.
Strengths:	• a comprehensive overview of the aspects affecting the increase of renewable energy in the Adriatic-Ionian area; • promotion of marine renewable energy sources to positively impact economic and social indexes such as jobs creation, local investments, poverty reduction and climate change mitigation; • positive impact of marine renewable energy on employment; • project team composed of private companies, public agencies and universities.
Challenges:	• some marine energy technology could have environmental effects that should be addressed before its large-scale implementation; • the short duration of the project did not allow deep exchanges with the beneficiaries in order to customize the research to very specific needs; • data and information gathered and elaborated by the project should be now used to define field actions.
Lessons learnt/ recommendations:	• solar and wind power, which are crucial in driving down EU carbon emissions, have become cheaper over the past five years taking the lead among renewable energies; • in countries with relatively small wind potential (e.g. Slovenia), such potential could be better exploited through small vertical wind turbines; • innovative technological solutions are needed to overcome specific problems (e.g. wind changing direction, regulations that do not permit installations on the coast, etc.) also in countries with high wind potential; • although the countries involved in the project are coastal countries, they do not have a strong marine energy sector except for Italy, which significantly invest in marine technology; • countries in the Adriatic-Ionian sub-region often share common problems when it comes to marine renewable energy sources such as sea depth, insufficient strong waves, sea bottom morphology, high investment costs, complex administration requirements and limited support from national Governments; • policies and strategies are often there but they lack implementation and follow up. Progresses are often the results of EU imposed targets rather than of national policies aware of the huge potential benefits linked to such technologies; • further technological development is still needed in order to reduce costs and attract the interest of investors on renewable energy sector in the Adriatic-Ionian marine-coastal area.

Sources of information:
http://www.medmaritimeprojects.eu/section/enercoast

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12. MAESTRALE

Project co-financed by the European Regional Development Fund



Blue Economy sector:	ENERGY
Objective(s) of the project:	the overall objective of MAESTRALE is to promote the development of blue energy as a key sector in the Mediterranean by strengthening existing, or establishing new, synergies and collaborative relations among public authorities, research bodies, businesses sector and civil society at both regional and transnational level in order to: i) establish the enabling environment to better exploit marine renewable energies while preserving the environmental and cultural values of the Mediterranean area; ii) promote knowledge and technological transfer; iii) generate the critical mass to improve innovation capacities and competitiveness.
Project promoters:	University of Siena-Dept. Physical, Earth and Environmental Sciences (Italy)
Project Partners:	Business Innovation Centre of Valencia (Spain); Istrian regional Energy Agency (Croatia); Aristotle University of Thessaloniki - School of Architecture, Faculty of Technology (Greece); Goriška Local Energy Agency (Slovenia); University of Cyprus - Oceanography Centre (Cyprus); Informest (Italy); University of Algarve - Division of Entrepreneurship and Technology (Portugal); Maritime Cluster of Andalusia (Spain); Malta Intelligent Energy Management Agency (Malta); Autonomous Region Friuli Venezia Giulia - Education, Training and Research (Italy, Associated Partner).
Geographical area(s) of implementation:	Mediterranean Area
Target beneficiaries:	MAESTRALE will benefit SMEs and/or enterprises, business incubators working in the blue energy field as well as universities and research centers which deal with the technological research and innovation. MAESTRALE will also contribute to develop policies, strategies and debate on the blue energy affecting governments, local communities and civil society.
Duration:	on-going (November 2016-October 2019).
Overall budget:	2.407.425 EUR

Summary of the project:	MAESTRALE project aims to lay the foundations for a blue energy strategy in the Mediterranean area by pursuing three objectives: i) improve the knowledge about blue energy potential, available technologies, laws and regulations, and internal or external factors which may hamper or advance its development; ii) reinforce networking across the Mediterranean area and improve cooperation among public authorities, research centers, energy agencies and enterprises ("Quadruple Helix") in the blue energy sector through a series of regional and transnational Blue Energy Laboratories (BEL) open to key Mediterranean blue energy actors for facilitating information sharing and innovation transfer and identifying limits and potentials of different marine renewable energy technologies; iii) develop 20 blue energy pilot projects (participatory feasibility studies[9] and business plans) as baseline for the implementation of blue energy technologies in the Mediterranean area
Results achieved:	MAESTRALE is still on-going but some important milestones have been reached. **STUDYING PHASE (WP3):** in order to complete and update the knowledge framework about blue energy in the Mediterranean area, MAESTRALE collected information about available technologies, existing laws, potential of marine renewable energy sources. In particular, the following activities were carried out: i) approx. 50 case studies on marine renewable energy devices investigated and catalogued outlining pros and cons, and possible challenges to face; ii) a legislative analysis of national laws and EU directives related to the development of blue energy; iii) a web-GIS database created to collect and share information about existent technologies, main producers, etc.; iv) a SWOT analysis carried out to highlight strengths, weaknesses, opportunities and threats deriving from the development of blue energy considering several dimensions: socio-political, economic-funding, legal, technological and environmental. Thanks to these activities, several partners of the project published (or they are about to publish) scientific articles on a special topic of Frontiers Journal on Marine Renewable Energies. **TESTING PHASE (WP4) and TRANSFERRING PHASE (WP5):** WP3 paved the way for the "testing and transferring" activities necessary for the creation of networks and the selection of pilot projects. The Transnational Blue Energy Laboratory (Transnational BEL) and the 10 Regional Blue Energy Laboratories (Regional BEL) in each project partner's country served as starting point for the testing and transferring activities. So far, two Transnational BEL meetings have taken place where the knowledge acquired was shared among partners and other key blue energy sector's stakeholders: As to Regional BELs, all partners organized at least one meeting in their own region with relevant stakeholders, and some of them have already selected also the pilot projects.
Strengths:	• the project benefits all the stakeholders involved by providing a detailed review of data, by promoting networking and knowledge/information sharing, by facilitating new collaborations and aggregating competing interests for common solutions; • stronger awareness of key stakeholders about the potential of blue energy in terms of jobs creation, attraction of investments, climate change mitigation, and energy independence; • it advocates for the development of a legislative framework for the blue energy sector based on the sustainable development of local resources and a fair and equitable distribution of benefits; • environmentally effective as it promotes the use of clean energy from waves, tides currents etc., the restoration of ecosystems and their services and the regeneration of resources; • support to innovative and competitive technologies, and strategic approaches for their installation • innovative and open source informative tools (e.g. web-GIS database to spread data and knowledge); • involvement of local communities, civil society and workers in the planning process, and support to local employability and business/investments.

9 Feasibility studies focused on environmental impacts, social acceptance, economic opportunities/constraints, and technological adaptability of installation to the territories.

Challenges:	• the current economic and (partly) technological lack of maturity of the blue energy sector; • in its planning and analysis phase, the project needs to consider collateral environmental effects such as noise, vibrations and change of hydrodynamic processes; • lack of information and trust about these technologies may turn into opposition of local communities; • difficulty to collect detailed data due to the lack of geo-referred data on marine energy potential.
Lessons learnt/ recommendations:	• solar and wind power, which are crucial in driving down EU carbon emissions, have become cheaper over the past five years taking the lead among renewable energies; • in countries with relatively small wind potential (e.g. Slovenia), such potential could be better exploited through small vertical wind turbines; • innovative technological solutions are needed to overcome specific problems (e.g. wind changing direction, regulations that do not permit installations on the coast, etc.) also in countries with high wind potential; • although the countries involved in the project are coastal countries, they do not have a strong marine energy sector except for Italy, which significantly invest in marine technology; • countries in the Adriatic-Ionian sub-region often share common problems when it comes to marine renewable energy sources such as sea depth, insufficient strong waves, sea bottom morphology, high investment costs, complex administration requirements and limited support from national Governments; • policies and strategies are often there but they lack implementation and follow up. Progresses are often the results of EU imposed targets rather than of national policies aware of the huge potential benefits linked to such technologies; • further technological development is still needed in order to reduce costs and attract the interest of investors on renewable energy sector in the Adriatic-Ionian marine-coastal area.

Sources of information:

https://maestrale.interreg-med.eu/what-we-achieve/deliverable-database/

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13. ALTER ECO INTERREG MED PROJECT – COMUNITAT VALENCIANA PILOT

Project co-financed by the European Regional Development Fund



Blue Economy sector:	COASTAL TOURISM
Objective(s) of the project:	Improve the balance between attracting tourism as a source of economic growth and conserving the traditional model of the Mediterranean city as an example of sustainability. Furthermore, three specific objectives were set: i) reduction and improved management of the impact of tourist activities on the environment, and in areas exceeding capacity; ii) improved social sustainability of Mediterranean tourist destinations by reinforcing and promoting the Mediterranean identity; iii) improving cooperation, joint and integrated planning among public and private agents, and management of conflicts of interest, in order to create new business opportunities. These objectives are to be achieved by implementing innovative measures in six pilot projects: Málaga, Genoa, Venice and Dubrovnik, and two regions: the Comunitat Valenciana (Region of Valencia) and the South Aegean Region. The approach of the Comunitat Valenciana pilot consisted of providing solutions in two of the tourism models most likely to be replicated along the Mediterranean Basin: urban tourism and sun and beach tourism. Two representative destinations in the Region were chosen for each of the two models. These are Valencia, as an urban destination for cruise ships, and Gandia, as a primarily sun and beach destination.
Project promoters:	Ministry of Housing, Public Works and Territorial Structuring, through the Valencian Institute of Building (Spain)
Project Partners:	ALTER ECO COMUNITAT VALENCIANA PILOT PARTNERS AND ASSOCIATED PARTNERS: Ministry of Housing, Public Works and Territorial Structuring, through the Valencian Institute of Building (IVE), Valencian Tourism Agency - Generalitat Valenciana (Regional Government), Valencia City Tourism Foundation, Polytechnic University of Valencia. ALTER ECO PROJECT PARTNERS: Málaga City Council (Spain), Aristotle University of Thessaloniki (Greece), South Aegean Region (Greece), Genoa City Council (Italy), Ca' Foscari University of Venice (Italy), Observatory on Tourism for Islands Economy (Italy), Dubrovnik City (Croatia), Lanarca and Famagusta District Development Agency (Cyprus), European City of Culture, Tourism and Development (France).

Geographical area(s) of implementation:	The approach of the Comunitat Valenciana pilot under the framework of the ALTER ECO project consisted of providing solutions related to improving sustainability in two of the tourism models most likely to be replicated along the Mediterranean Basin: urban tourism and sun through Valencia and beach tourism through Gandia.
Target beneficiaries:	Local public authority, Regional public authority, Sectoral agency, Enterprise, SME and General public
Duration:	November 2016 - July 2019
Overall budget:	253.356€ invested in the Comunitat Valenciana Pilot. The total budget was €2.3 million
Summary of the project:	The following measures, were proposed to achieve the ALTER ECO Project objectives in the Comunitat Valenciana pilot: REGIONAL LEVEL Improving comfort of tourist accommodation: in order to improve the comfort of tourist accommodation, a series of tools were designed to provide information on possible improvements to the quality of existing tourist accommodation and, where appropriate, to refurbish them properly, in order to provide accommodation adapted specifically to the needs of the Mediterranean tourism sector. The goal is to improve sector competitiveness and reduce the seasonality of Valencian tourist destinations. At www.mejoratuviviendaturistica.com all tools developed. GANDIA Monitoring influx of people at Gandia beach: In a first phase, the number of people was monitored at five points of Gandia beach for over one year. Data were collected on the number of people per hour, day and month at the five points indicated by the Council, as well as data on mobility between these points. In a second phase, the Gandia city center was monitored to obtain data on number of people per hour, day and month at the six points indicated by the Council in Gandia city centre, as well as on mobility between these points and the first phase points. Data was obtained on the number of people visiting these six points in the centre from the five points established by the Council at Gandia beach. Free WiFi at Gandia beach: a free WiFi system was included at the beach to offer visitors Internet access, enabling them to access municipal tourist information. Tourists and residents in Gandia who access the free WiFi service at the beach are shown details on how to reach and visit tourist attractions in the city centre. The purpose of this action is to mobilize sun and beach tourists towards the city centre with a different tourist offer and promote visits to Gandia at times other than summer. Gandia Tour & Play APP: Gandia Tour&Play mobile app applies gamification and augmented reality techniques to guide visitors around three areas in Gandia: the beach, the old town and the l'Ahuir beach natural landscape, to make tourist activity in these areas more dynamic. Laminoflexia: LAMINOFLEXIA is a cultural promotion strategy headquartered in Gandia. It provides mechanisms to generate alternative routes to conventional coastal tourism based on the valuation of a singular type of construction: shell structures. As a method of diversification of supply, it introduces a means of attracting a type of tourists which are way more respectful of the environment. VALENCIA Alternative tourist routes around the city of Valencia: this measure develops three tourist routes around areas that are currently not the focus of tourist attraction in the city of Valencia. These routes, prepared as guides, invite visitors to (re)discover the city with three different routes proposed by four residents in each of the neighborhoods with different profiles and concerns. The Guides can be downloaded free of charge at: www.guiasaltereco.com. Alter Eco APP: this mobile application improves the visitor's experience using technology, increasing interaction with gamification and augmented reality techniques. It is a new promotion and communication channel for the destination, obtaining geolocated information on users, both socio-demographic and psychographic, for planning public policies. With the APP, visitors discover local geolocated resources using games and impact can be measured. Monitoring "La Marina de València": "La Marina de València" was monitored at seven points, to measure the number of people, how they move around the area and the times of maximum influx.

Results achieved:	The ALTER ECO project - with the measures applied in the Comunitat Valenciana pilot (in the cities of Gandia and Valencia) - aimed to tackle the general objective of the project: to improve the balance between attracting tourism, as a source of economic growth, and the conservation of the traditional Mediterranean city model as an example of sustainability. The following is a brief description of the concluding points which ratify the fulfilment of the expectations proposed at the beginning of the project: i) promoting measures at two levels: urban-neighborhood and sun and beach destination; ii) returning information and data obtained to society as a catalyst for transforming the tourist destination and by changing how tourism is planned; iii) offering business opportunities to the commercial and business sectors of the neighborhoods and tourist areas affected; iv) reinforcing the Mediterranean identity by understanding tourist conduct and behavior; v) transitioning towards greater innovation at the destination by using communication technologies; vi) social awareness on improving and transforming the tourist products offered.
Strengths:	• help politicians make reasoned and integrated decisions for tourism governance and management and, at the same time, improve the coordination of actions between public and private agents to apply the strategies proposed in order to create new business opportunities, products, services and infrastructures adapted to real needs; • measures to promote structural policies to regulate tourist accommodation (comfort, sustainability and accessibility) and promote investments in the necessary improvements, given the obsolete conditions of the building stock of second homes in the Comunitat Valenciana; • tourist maps and guides to redirect tourist flows as a complement to traditional circuits in order to spread the effect of tourism and benefits other areas; • influence the conduct and behavior of tourists by offering other leisure and recreational areas to reduce the negative impact of exceeding the carrying capacity specific areas or attractions; • test the use of new communication technologies: measurement sensors, Wi-Fi networks and mobile APPs in the field of tourism activities. This corresponds to the will of public administrations to promote innovation in tourist destinations and equip neighborhoods, tourist areas and destinations with this type of communication technologies; • measuring systems such as influx monitoring, access to public Wi-Fi or the use of tourist APPs and their link with social networks gave an insight, into the real behavior, patterns and conduct of tourists and citizens in the two areas of study (Gandia and Valencia); • data obtained (number, mobility, frequency and influx of tourists) allowed public bodies responsible for the management and planning of tourism, greater control over problems related to tourism activities and the opportunity address the issue of seasonality; • innovative method to involve the main agents in each pilot with different profiles, interests and priorities by using “human-centred design” techniques with a Living Lab approach. Living Labs can improve the innovation process by establishing alliances between companies, citizens and governments that allow users to take part in R&D+i at an early stage; • test existing methodologies and tools to outline strategies that can be transferred to the Mediterranean as a whole.
Challenges:	• present the project to other Mediterranean cities in order to transfer the results; • the project is a first step for transforming and improving the tourism sector, which must be continued over time and complemented with suitable and attractive business models involving public and private agents in order to improve the tourist housing stock in the Comunitat Valenciana; • wisely balance the distribution of tourists in time and space do not mean transfer the problems to other areas but divert fluxes to areas prepared manage them in terms of management of natural resources, waste, water, energy, etc; • converting the information obtained from the project into geospatial information so to generate a database available to all relevant stakeholders if there is the capacity to interpret them;

Lessons learnt/ recommendations:	• management of smart tourist destinations through new technologies (e.g. mobile applications, Wi-Fi networks or monitoring sensors) requires the incorporation of other types of companies traditionally outside the tourism sector, which result often difficult; • it is important to consider a realistic forecast of maintenance costs and a clear agreement on how and by whom the maintenance of the measuring equipment will be carried out since any incidence will reduce the quantity of data collected and also their quality and accuracy; • implementing some measures required contacting commercial and business sector as well as residents, associations and social groups in each neighborhood and tourist area. It is especially important to involve the productive sector in the design and implementation of the measures. It is recommended to allocate enough time to this.

Sources of information:

Report about activities carried out in Comunitat Valenciana Pilot: https://www.five.es/wp-content/uploads/AlterEco_ComunitatValenciana_English.pdf

ALTER ECO project website: https://alter-eco.interreg-med.eu/

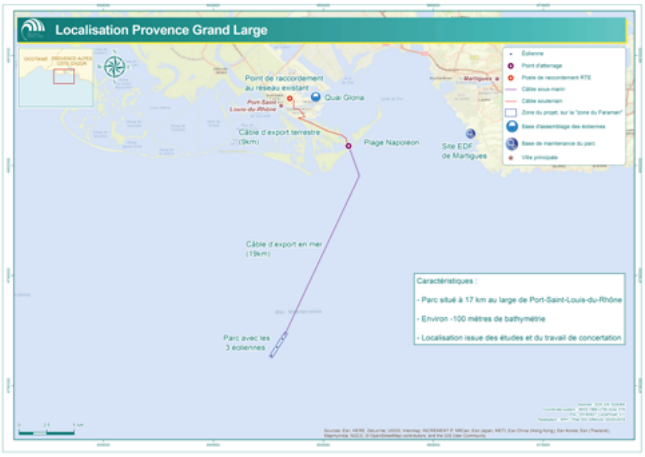
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14. PROVENCE GRAND LARGE - FLOATING OFFSHORE WIND FARM



Blue Economy sector:	ENERGY
Objective(s) of the project:	i) demonstrate the technical and economic feasibility of an innovative floating wind technology; ii) acquire a global (technical, environmental and societal) feedback at pilot scale (3 turbines) in real conditions; iii) produce electricity for 40 000 people under representative quality, environment and safety conditions; iv) setup the basis of an innovative industry within the Marseille-Fos harbor territory.
Project promoters:	EDF Renewables
Project Partners:	i) Siemens Gamesa Renewable Energies (SGRE); ii) SBM Offshore in partnership with IFP Energies Nouvelles; iii) RTE (Réseau de Transport d'Electricité)
Geographical area(s) of implementation:	

Target beneficiaries:	General public
Duration:	Development: 2011-2019 Construction: 2019-2021 Commissioning: 2021 Operation: 25 years
Overall budget:	200.000.000 EUR
Summary of the project:	One of the challenges of our time is to keep global warming below the 1.5°C bar, compared to the pre-industrial age, means a radical change in our development pattern. Achieving this goal suppose we urgently move toward a low-carbon economy and wind energy will be a major driver. As a matter of fact, considering the growing demand of energy, especially electrical energy, we are supposed to massively diversify our energy mix and increase the use of renewable energy. From global to local level, users are today pushing for durable and clean forms of energy production, and the development of new technologies such as floating wind technology is the mirror of such ambition. The expectations of growth of this technology are very promising worldwide. Installed in sea areas distant from the coast, with water depth ranging from minimum 50 to several hundred meters (currently out of reach of any other forms of renewable energy technology) and benefiting of very favorable wind regimes, they would interfere less with littoral activities while increasing the potential of offshore wind turbines bringing in a new perspective in the field of renewable energy production. This technology, however, is currently in place through prototypes mainly and, considering the major challenges that it still needs to tackle, needs to be further tested at a limited scale before its large-scale deployment. This is the challenge of the Provence Grand Large project. Its main aim is to gain experience and demonstrate, at the scale of a pilot farm composed of 3 floating wind turbines only, the technical and economic feasibility of generating electricity at a larger scale, as well as its environmental and social effects on its surrounding environment. This would boost the development of future floating wind production projects, paving the way for a new sector of excellence in the field of renewable energies, with a global technical potential of development currently estimated in hundreds of GW worldwide.
Results achieved:	i) award of the NER 300 first round call (2012); ii) grid connection secured (2013); iii) wind turbines tender awarded (2016); iv) floaters and EPCI tender awarded (2016); v) award of ADEME floating wind pilot farms call for projects (2016); vi) submission of authorization package (2017); vii) favorable public debate commission (CNDP) report (2018); viii) early works agreement signed with WTG and FSS suppliers (2018); ix) favorable public hearing report (major authorizations obtained (2019); x) electric cables tender awarded (2019).
Strengths:	• direct contribution to global warming reduction by developing a new renewable energy sector with strong potential share in the future electricity supply, worldwide; • creation of hundreds of direct and indirect jobs during development construction and operation phases; • initiation of an innovative industry sector based on the Marseille-Fos industrial harbor benefiting to the whole European economy; • limited environmental impacts demonstrated by a wide range of environmental studies (e.g. birds, marine mammals, benthos) and proved to be fully compatible with the local Natura 2000 sensible environment area; • comprehensive set of environmental monitoring protocols designed with the support of a panel of independent experts, in order to assess interface issues with birds and marine fauna in view of designing future environmental-friendly large-scale floating wind farms; • successful local consultation history publicly recognized as strongly supported by local communities, by independent bodies in 2017 and 2018. They highlighted the special efforts made in term of co-development with local stakeholders since the origins; • based on latest technologies (e.g. the tensioned legs floater is the first ever of its kind in the offshore wind industry); • dedicated task force with chamber of commerce and business representatives in order to attract local companies and allow them to participate in project partners business opportunities.

Challenges:	• given the innovative nature and the small size of the project, administrative process could have been optimized, resulting in shorter delays and better opportunities for exporting the proposed technologies, worldwide. Although the project was among the very first, it is now facing competition with half a dozen of similar initiatives worldwide; • since this is the first time that there would be offshore wind turbines deployed in the Mediterranean sea, the project had to overcome lack of knowledge of many environmental players, who do not consider that experience with the 4500+ wind turbines currently in operation, mainly in the North Sea, to be fully consistent with local environmental challenges; • due to the innovative nature of the project and the risks to be taken by project sponsors (no previous record of experience could be used), it was not possible to involve local communities in the project's financing; • the replicability of the project in other areas need to be considered due to some specific characteristics of this cutting-edge technology, especially in shallow waters.
Lessons learnt/ recommendations:	• there are intensive electricity users operating in the immediate vicinity, so the issue of grid integration of future large-scale floating wind farms in the Marseille area should be addressed; • although too late for this project, the implementation in France of the new legislation for offshore wind projects will allow more flexibility in the design of future floating wind farms, allowing to adapt the project to the rapidly evolving offshore wind market and resulting in a better integration of projects; • like for most innovative projects, technical and administrative challenges have appeared since the project inception resulting in technology changes, which impacted the overall project planning. Despite the efforts deployed in terms of consultation with all local stakeholders, many questions solved at one stage, have risen again just because the people in charge, either in the administrations or stakeholder representatives, had changed. This is a major difficulty, especially for an innovative project, whose main asset is its capability to be on time; • over the past 50 years, according to the decision of the French government, the Marseille-Fos harbor development has been mainly dedicated to the oil industry, up to the point of becoming the French largest harbor in volume. Local industries, strongly supported by the local and harbor authorities, have developed a wide range of services and products for oil and gas exploration, production and commercialization. Most of those tools have proved to be adaptable to the challenges inherent to design, construct, implement and operate large-scale offshore mechanical structures, such as a floating wind platform. There are also other examples of moving from oil and gas offshore platform assembly to offshore wind turbines and floaters constructions.

Sources of information:

https://www.provencegrandlarge.fr/

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15. BLUEMED



Blue Economy sector:	TOURISM AND RECREATION
Objective(s) of the project:	The overall objective of BLUEMED is to align and integrate regional development policies, plans and management practices for underwater museums and diving parks for a tourism valorization of underwater natural and cultural heritage in accordance with principles of sustainable, responsible and blue growth. The project aims to produce diversified and competitive tourism products with distinct local characteristics by adopting a 'place-based' approach. To ensure strong cooperation and added value for the entire Mediterranean area, BLUEMED will pay special attention to the networking of sites and creation of an "Underwater Natural and Cultural Route in the Mediterranean" thematic itinerary. BLUEMED applies common methodologies to: i) address the priorities of the European Strategy for more Growth and Jobs in Coastal and Maritime tourism; ii) integrate principles of the EU Protocol on Integrated Coastal Zone Management, the Maritime Spatial Planning Directive, and the Mediterranean Strategy for Sustainable Development; iii) help preserve and protect underwater cultural resources in situ by leveraging the implementation of the Convention on the Protection of the Underwater Cultural Heritage; iv) assist the Biodiversity and Adaptation EU strategies in minimizing impact to marine ecosystems and help selected sites adapt to climate change.
Project promoters:	Region of Thessaly - Regional Development Fund
Project Partners:	Atlantis Consulting SA; University of Calabria-DIMEG; University of Zagreb - Faculty of Electrical Engineering and Computing; Ministry of Cultural Heritage and Activities and Tourism-Institute for Conservation and restauration; University of Cyprus-Oceanography Centre; University of Patras-Department of Civil Engineering; Foundation University Enterprise of the Region of Murcia; Dubrovnik Neretva Regional Development Agency; Ministry of Culture and Sports of Greece-Ephorate of Underwater Antiquities; Province of Crotone - Marine Protected Area «CAPO RIZUTTO» (Associate); Municipality of Pylos-Nestor (Associate); National Museum of Underwater Archaeology-ARQUA (Associate); Superintendence of Archaeology, Fine Arts and Landscape for the Naples Metro Area (Associate).
Geographical area(s) of implementation:	Pilot sites: the Underwater Archeological Park of Baiae (Italy), the Marine Protected Area of Capo Rizzuto (Italy), the Underwater Museums of Western Pagasitikos/Sporades (Greece) and the Cavtat Underwater Archaeological Sites (Croatia)

Target beneficiaries:	i) BLUEMED consortium and the future network of parties interested in establishing and/or consolidating Underwater Museums and Diving Parks; the Interreg-Med sectoral agencies, including Horizontal projects and Thematic Communities; ii) Business support organizations: Technological Parks, incubators, accelerators which host, mentor and support tourism related start-ups and new SMEs with activities in pilot locations; iii) Education/training centers and schools; iv) Enterprises, except SME: Large-sized enterprises offering products and services in tourism, diving, and cultural industries; v) General public: Local/regional communities, civil societies, visitors and NGOs; vi) Interest groups including NGOs: Local/regional civil societies and competent NGOs; Museums; MPAs; vii) Universities and research organizations specializing in sustainable tourism, underwater research, engineering, archaeology, maritime/nautical archaeology and environmental sciences; viii) International organizations, underwater cultural heritage sector; ix) Local/Regional public authorities and development agencies from the Mediterranean area; x) National public authorities (Ministries and Agencies of Tourism, Development, Culture and Environment); xi) Local/regional small-medium enterprises and other economic actors offering products and services in tourism, diving and cultural industries.
Duration:	2016-2019 (extended until January 2020) On-going
Overall budget:	2.797.549 EUR
Summary of the project:	The BLUEMED project aims to protect and promote Mediterranean natural and cultural resources by enhancing sustainable development policies for more efficient valorization of underwater natural resources and cultural heritage in coastal and adjacent maritime areas in accordance with the 2001 Convention on the Protection of the Underwater Cultural Heritage and by strengthening sustainable and responsible coastal and maritime tourism in the Mediterranean Area. The BLUEMED project focuses on: i) supplying local/regional authorities with a multi-disciplinary plan (management models and innovative technologies) for Underwater Museums, Diving Parks and Knowledge Awareness Centers to be developed in Capo Rizutto, Baia bay, Western Pagasitikos/Sporades and Cavtat sites (policy recommendations, management practices, networking and promotion); ii) promoting innovation in the diving industry and improving divers experience through innovative diving services and technologies; iii) attracting an increasing number of people who choose diving tourism; iv) introducing the wider public to underwater cultural heritage by means of 3D immersive visualization in museum exhibitions and Knowledge Awareness Centers ; v) setting up the “Underwater Natural and Cultural Routes in the Mediterranean” web-based platform for networking of the Mediterranean underwater natural and cultural heritage sites.
Results achieved:	i) promote a sustainable model of tourism for coastal areas and islands through transfer of best practices among underwater natural and cultural heritage sites with important know-how, and cross-fertilization of knowledge gained in the field of employability, seasonality reduction, incentives for the protection and preservation of natural and cultural heritage etc.; ii) assessment of national and regional governance plans and actions (national strategies and RIS3 regional plans) implementing existing legal frameworks, and development of innovative regional/local territorial development strategies; iii) recommendations for harmonizing policies at national/regional/local level for improving underwater museums and MPAs management, and increasing their conservation status; iv) combination of available and innovative funding mechanisms and tools taking into account green Infrastructure, integrated coastal zone management, marine spatial planning and tourism accessible for all (diving is accessible also to persons with physical disabilities); v) validation of innovative financial instruments which ensure sufficient funding for the establishment and management of Underwater Museums and Diving Parks; vi) maritime and land planning studies for the establishment of a combination of Underwater Museums and Diving Parks in the most appropriate size; vii) management models designed for the sustainability of investments and operations of Underwater Museums and Diving Parks. Key Performance Indicators (KPIs) were developed for measuring sustainability throughout the project; viii) pilots for testing Underwater Museums, Diving Parks and Knowledge Awareness Centres in selected locations and capitalization on successful cases;

	ix) data collection (as part of pilots validation) to enable KPIs measurements and analysis, with emphasis on minimizing impact to ecosystems in the pilot areas; x) raised awareness of the social value, the competitive advantages, and the particularities of underwater natural and cultural heritage through Knowledge Awareness Centers; xi) effective networking and coordination among managing authorities and active stakeholders of the Underwater Museums and Diving Parks across the Mediterranean and internationally through exchange of knowledge and know-how transfer between sites; xii) set forth the "Underwater Natural and Cultural Heritage Routes in the Mediterranean" campaign for the creation of added value for the entire Mediterranean area.
Strengths:	• special protocols for in situ preservation of underwater cultural heritage; • financial sustainability study and feasibility study of proposed/existing business models for pilot Underwater Museums and Diving Parks; • guidelines for designing and implementing restoration and conservation plans of underwater cultural heritage; • increase of employability opportunities through a new model for national growth; • a web-based platform (Underwater natural and Cultural Routes in the Mediterranean) for networking and promoting Mediterranean locations with underwater natural and cultural heritage; • detailed roadmap, with identified and prospective stakeholders, to uptake main outputs and results from areas with similar characteristics of the BLUEMED pilot sites; • roadmap for replicability and transfer activities, for involvement of local/regional communities and economic operators.
Challenges:	• difficulties encountered by some of the countries in establishing 'good' legal and administrative practices for the recreational use and monitoring of their Underwater Cultural Heritage sites. The Underwater Cultural Heritage sites are managed differently throughout Europe, and each country adopts its own strategy to ensure their protection and the way they could (or could not) be visited.
Lessons learnt/ recommendations:	• the BLUEMED final Report, still to be elaborated, will include results and statistical analysis which will allow a comparative assessment among the five pilot sites and, as such, the formulation of recommendations concerning: i) future similar programs/initiatives; ii) policies/strategies/plans for sustainable and responsible tourism development through the valorization of underwater natural and cultural heritage; iii) legislative, planning, management, financial and coordination best practices for establishing Underwater Museums, and Diving Parks and Knowledge Awareness Centers; iv) protection/preservation of underwater cultural heritage sites and surrounding marine ecosystem and biodiversity while improving accessibility and sustainable tourism development.

Sources of information:

https://bluemed.interreg-med.eu/

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16. DESTIMED



Blue Economy sector:	TOURISM AND RECREATION
Objective(s) of the project:	The main objective of the project is to foster joint planning, management, monitoring and promotion of ecotourism in Mediterranean protected areas, and in particular to: i) assess and monitor the sustainability of ecotourism products developed in Mediterranean protected areas; ii) reinforce capacities and cooperation for sustainable ecotourism product development at local and at regional scale; iii) improve the regional governance of ecotourism in Mediterranean protected areas.
Project promoters:	Lazio Region
Project Partners:	MedPAN - Mediterranean Protected Areas Network; WWF Adria; WWF Mediterranean; IUCN Med - Centre for Mediterranean Cooperation; Federparchi - Italian Federation of Parks and Nature Reserves; NAPA - National Agency of Protected Areas in Albania
Geographical area(s) of implementation:	France, Spain, Italy, Croatia, Greece, Albania
Target beneficiaries:	Protected Areas of the Mediterranean, and surrounding communities, local Tour Operators and service providers in the tourism sector, Local Authorities.
Duration:	Nov. 2016 to October 2019 (on-going)
Overall budget:	2.500.000 EUR
Summary of the project:	DestiMED is a transnational cooperation project addressing sustainable tourism issues. The project brings together a network of partners and protected areas in six Mediterranean countries to collectively develop, manage, and promote ecotourism that inspires transformative nature experiences and cultural exchange. Selected protected areas designed new ecotourism packages, which were tested following ecotourism standards and monitoring methods, and developed guidelines for sustainable tourism management. DestiMED builds on the success of the previous MEET project (Mediterranean Experience of Ecotourism) and aims at bringing forward a participatory approach in ecotourism planning by developing an innovative approach to measuring and reducing the environmental impact of tourism, based on the Ecological Footprint methodology.
Results achieved:	i) methodology for measuring the environmental impacts of tourism products tested (including accommodation, transport, food & beverage, etc.). At the end of the project, an "Ecological Footprint Calculator" will be available online for any Destination Management Organization (DMO);

	ii) ecotourism packages tested/assessed in 13 Protected Areas in 6 Mediterranean countries; iii) governance method for ecotourism development (planning, implementing, monitoring, revising) applicable to any destination with significant natural/cultural assets and with a body acting as DMO.
Strengths:	• integration of 13 protected areas in the already existing MEET network and actual solutions for the management and reduction tourism flows' impacts; • preservation of natural and cultural assets while promoting new businesses, or new opportunities for already existing businesses, within the growing eco-tourism market; • application of the Ecological Footprint methodology to a package of services for their measurement and monitoring throughout all the value chain; • environmental degradation addressed through the direct involvement of protected areas, which work on their own tourism products and monitor their impact; • development of a complete tourism-related governance system; • most ecotourism products supported by the project involve small local providers supporting social inclusion in the destination and strengthening local economy as a whole; • for the first time (at least in the Mediterranean region), data on the environmental impacts of tourism products are collected and processed for improving the sustainability of such products; • a Public-Private Partnership in place in each of the 13 pilot protected areas, starting from the establishment of a Local Ecotourism Cluster (LEC) in each area involving ecotourism stakeholders in the destination and parks management bodies. This approach is replicable in any protected area that aims to improve ecotourism actions.
Challenges:	• lack of involvement of regional (Mediterranean) tourism policy makers; • lack of opportunities to engage into a structured commercial promotion of products during the project due to EU rules; • social and cultural impact of tourism is not well addressed (not being the project's focus); • project duration does allow addressing the low competitiveness and seasonality of the ecotourism offer in Mediterranean protected areas; • mismatch of skills and capacities, especially in SMEs, to engage into effective local governance.
Lessons learnt/ recommendations:	• adapt approach to the specific context of each protected area; • assessing the impact of activities in specific destination may require specific indicators and means of verification since the Ecological Footprint looks at the overall impact; • new and more refined tools are needed for social, cultural and economic impacts of tourism products; • in order to incentive investments on sustainability as a competitive factor in the tourism market, proofs are needed based on data; • organization of tourism activities/services in a protected area is not a warranty of sustainability per se; • innovation must pass through testing phases to validate assumptions and expected results; • within a participatory process, attention must be paid to the involvement of the weakest parts of the community; • mobilize reliable local providers with enough capacity and aligned with the sustainability "vision" for ecotourism products is a time-consuming activity; • need to develop monitoring methods and ensure continuous collection of data at local scale.

Sources of information:

https://destimed.interreg-med.eu/

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17. MEET - NETWORK ASSOCIATION FOCUSED ON PROTECTED AREA ECOTOURISM



Blue Economy sector:	TOURISM
Objective(s) of the project:	promote a network of protected areas (PAs) that join forces to plan, monitor, design and promote ecotourism in their PAs, in through the development and promotion of ecotourism products.
Project promoters:	IUCN Med, MedPAN, Al Shouf Cedar society
Project Partners:	Global Footprint Network, Monte Rufeno reserve, Samaria National Park, Port Cros National parks, Sierra Nevada National Parks, El Majistral national park, Sinis Marine Protected Area, Jabal Moussa National Park, Karpathos National park
Geographical area(s) of implementation:	Italy, Spain, France, Greece, Lebanon, Malta
Target beneficiaries:	protected area managers, local tour operators, local tourism service providers
Duration:	on-going
Overall budget:	N/A
Summary of the project:	The MEET Network is actively transforming ecotourism into a viable alternative for the Mediterranean region, supporting PAs in the development of high-quality ecotourism products while shifting the market perception towards a 4C tourism model: Conservation, Compassion, Connection, and Community. During the last five years, IUCN has worked in partnership with other Mediterranean conservation organizations including WWF, MedPAN, Europarc Italy, RSCN, the Global Footprint Network and various public authorities in establishing a new model for Mediterranean ecotourism. This approach focuses on the development, management, and promotion of ecotourism products in PAs that benefit conservation within the Mediterranean region unique assets and particularities.

	Nearly 40 PAs have participated in establishing a new "protocol" for the development of ecotourism products, which includes guidelines for managing quality and sustainability, reducing environmental impact, and strengthening local governance through partnerships with the private sector. In early 2018, the MEET Network was formally established, creating a regional association and a platform for promoting ecotourism in the Mediterranean protected areas. The tools tested and refined through previous EU-funded initiatives provided the network with a solid ecotourism development process and high-performance standards. MEET offers PAs its expertise for the development and monitoring of ecotourism products, and their commercialization. What makes the MEET model so successful, and why is different from any other ecotourism products development process? The MEET model: i) ensures that PAs and conservation are at the center of the products offer; ii) requires that all the products are created and managed in a participatory manner and designed according to the market needs; iii) requires that the products contribute to a conservation activity; iv) establishes a conservation fund to support regional conservation projects; v) ensures that the entire supply chain of its products is managed by local providers, including local tour operators. To do so, MEET offers expert assistance, capacity building, quality monitoring tools and on-the-spot support both for the PAs and local providers to ensure continuous improvement. Those products which are tested and achieve high performance scores in terms of quality, sustainability, and impact management are included in the MEET Guide. Once selected and approved by the MEET Board, the portfolio of products is sold to the market through both B2B and B2C channels under a Mediterranean ecotourism brand.
Results achieved:	i) MEET Network established and operational; ii) twelve active members and eight in the application phase; iii) five products included in the portfolio; iv) eight new products in the pipeline; v) strategic partnership established in Morocco and Tunisia;
Strengths:	• specific and marketable ecotourism products, attractive for the local private sector; • participatory planning and management through the establishment of LECs, which involve ecotourism stakeholders in the destination and the PAs management; • a percentage of MEET ecotourism products feeds a conservation fund dedicated to conservation activities implemented by the network's members; • it shows that PAs can be engine for local development, improving the perception of the PAs within local communities; • ecotourism products created within the MEET Network involve small local providers only, this supports social inclusion in the destination and strengthens small initiatives often put in place by women and youth; • establish clear standards for ecotourism products, fully aligned with the principles of sustainability and conservation; • environmental degradation is addressed through the involvement of PAs managers in defining ecotourism products and monitoring their impacts throughout the value chain; • bottom up approach to collect data (in-situ questionnaire on ecological footprint and quality); data are stored in a dedicated platform open to local ecotourism clusters so to make informed decisions on how to improve ecotourism products and reduce their impacts; • highly replicable in any PAs that want to improve ecotourism actions since its methodologies and tools have been tested; • through a convention with a commercial partner, MEET Network ensures that the benefits of the ecotourism products placed to the market revert to the local tour operators.
Challenges:	• marketability of the products created in line with the expectations of the local communities (often demand depends on factors beyond the capacities of the project); • identify indicators and means of verification able to report on the overall impact in the destination, and not only on its economic impact;

Challenges:	• balance between good quality and environmental sustainability of ecotourism products; • find local providers which are professional, reliable and aligned with the project's vision; • ensure data collection at local scale to monitor the ecotourism products; • shared vision and effective coordination within the Local Ecotourism Cluster; • promote investments towards ecotourism products, especially concerning community-based products development; • general lack of knowledge and data on tourism fluxes and their impacts in the destinations; • limited capacity of the conservation sector to influence tourism and promote destinations; • PAs have legal limitations in receiving direct monetary contributions from visitors whereas additional efforts related with tourism development are required to them, mostly without dedicated funding; • promote a collaborative environment in the tourism sector, which is highly competitive.
Lessons learnt/ recommendations:	***At local scale:*** • for local governance to function, when involving the private sector, it is important to work towards a common and tangible goal that can provide clear economic benefit to the participants, such as an ecotourism product; • the perspective of tourism stakeholders must be included at the very beginning; • if the conditions allow, the initiatives supporting local development should move beyond the mere strategic planning and look at business opportunities in all their components, including promotion; • tourism should be planned holistically (socio-economic growth, impact on the territory, etc.) so allow informed decision making; • address low competitiveness and seasonality of ecotourism in the Mediterranean PAs as well as the lack of skills, especially of SMEs, to engage in effective local governance and deliver high-quality and sustainable ecotourism products and services. ***At Mediterranean scale:*** • need to measure, understand and make informed decision based on the Sustainable Net Impact of ecotourism actions across the territory, considering conservation, ecological impacts, and socio-economic aspects; • PAs are ideal territories to invest in ecotourism initiatives, however local and regional actors need to gain skills to remain competitive and balance market expectations with conservation needs; • PAs are established to protect natural values, but they are increasingly required to support local development by creating jobs and business opportunities; • PAs should be focusing on the ecosystem services provided to local communities and, once identified, they should establish ad-hoc collaborations and partnerships with enterprises, universities, etc. for strengthening those services particularly crucial for local development, tourism in particular; • PAs should network among them and lobby at national scale to receive more funding for the development role they have; • conservation and tourism must be developed under the same strategic goals so to halt tourism initiatives that could have detrimental impact on conservation; • PAs should be allowed establishing entry fees, at least from non-residents; to avoid inequalities among PAs, part of the revenue should be directed to a national/regional fund and distributed among PAs.

Sources of information:

https://www.meetnetwork.org/

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18. NATIONAL PARK LA MADDALENA - ENVIRONMENTAL QUALITY LABEL



Blue Economy sector:	TOURISM AND RECREATION
Objective(s) of the project:	Promoting the diffusion of the culture of sustainability both among operators and users of the protected area through the attribution of an environmental quality label.
Project promoters:	National Park of the Archipelago of La Maddalena
Project Partners:	The network of economic operators registered to the brand
Geographical area(s) of implementation:	the municipality of La Maddalena but the intention is to extend the project to neighboring municipalities, and potentially to the northern Sardinia, characterized by the same tourist vocation
Target beneficiaries:	The first beneficiaries of the label are the economic operators of the «hospitality» sector, such as hotels and B&B, bars and restaurants. In 2018, the label was extended to the operators of the nautical tourism and the ports sector. The objective is to involve other categories of public and private operators.
Duration:	The project is on-going, and no deadline is foreseen.
Overall budget:	About 25,000 EUR/year devoted for territorial animation, dedicated web site management, production and distribution of promotional material, realization of initiatives on sustainability culture such as campaigns for the reduction of disposable plastic consumption, use of biodegradable detergents and against food waste.
Summary of the project:	"Isole Amiche del Clima" (IAC) is a quality "label" attributed to economic operators who adopt the good practices of environmental sustainability proposed by the Park. The label recognizes the actions undertaken by the economic operators towards environmental sustainability, the promotion of the cultural heritage and the preference for local productions as crucial part of their business strategies. The aim is to strengthen the culture of sustainability both among the operators and the users of the protected area. The label has three-year validity and is assigned to those who meet the access requirements; the accession process, composed of progressive steps, is based on the possession of mandatory and optional sector-specific requirements. The requirements needed to obtain the label focus on five sectors: energy, water, waste, purchases and sensitization. The economic operator which gathers all the requirements is labeled as "top level". The network of economic operators participating in the project gain visibility thanks to a dedicated web site and a series of promotional initiatives, which also stimulates forms of collaboration between them, such as the creation of groups of purchase or the implementation of campaigns on environmental sustainability.

Results achieved:	i) to date, the economic operators who have received the label are 19; ii) IAC is a dynamic project built on the inputs from the operators and the continuous exchange of knowledge and experience experiences; iii) the project is a suitable tool to promote cultural exchange, discussion, transfer of ideas and elaboration of projects on sustainable development.
Strengths:	• the label is perceived as an added value in the business strategy of the economic operators; • the label contributes to reduce the impacts of economic activities on the environment by valorizing local and zero-kilometer productions and raise awareness of environmental sustainability issues; • the label may benefit of the funds made available by the project to test innovative products and services in terms of reduction of environmental impacts; • data related to the project and its members are available on the website free of change: www.isoleamichedelclima.it; • the label is a way to involve local administration, for example the National Park of the Archipelago of La Maddalena has proposed to the local administration to adhere to the label as far as the management of the port area is concerned.
Challenges:	• the implementation of the practices required by the label represent an additional cost; • insularity and the rigidity of the markets affect the costs of products and services as well as the provisions regulating production activities; • although the label is recognized as a tool to influence the cultural context, its impact is difficult to measure; • cooperation with local authorities in order to make them adopt the label has not yet brought the desired results.
Lessons learnt/ recommendations:	• business' associations consider the adoption of an environmental quality label an advantage to compete within a tourism market increasingly sensitive to environmental sustainability issues even if this represents a cost. Such costs could be amortized through the creation of consortia, which is not yet the case; • more budget should be directed to encouraging economic operators to adopt the eco-friendly practices needed to achieve the label; • the label is potentially extensible not only to economic sectors but also to institutional actors such as local administration, schools, military institutions, etc. present in the territory; • the label is a promising tool to influence the cultural context and visitors/residents behavior; • label success largely depends on the willingness of local institutions to make it concretely beneficial for those operators that adopt it (e.g. through incentives).

Sources of information:

www.isoleamichedelclima.it

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19. SIROCCO



Blue Economy sector:	TOURISM AND RECREATION - Cruising sector
Objective(s) of the project:	To enhance sustainability of the cruise tourism (maritime and coastal) in the Mediterranean area.
Project promoters:	PI RERA S.D SD FOR COORDINATION AND DEVELOPMENT OF SPLIT DALMATIA COUNTY
Project Partners:	Centre for research and technology Hellas; South Aegean region; Larnaca Famagusta district development agency; Lazio region; port authority of Civitavecchia; ValenciaPort Foundation
Geographical area(s) of implementation:	Case studies in five ports in the Mediterranean area
Target beneficiaries:	Local community, local and regional government, tourist operators, general public, port authorities
Duration:	Completed in 2018; 20 months
Overall budget:	600.000 EUR
Summary of the project:	The project was focused on two streams: i) Operational level (collecting and integrating cruise tourism data, preparation of sustainable cruise tourism certification system, preparation of value chain analysis, presentation and validation of Local and Joint action plans); ii) Policy level (preparation of policy coherence analysis, regional and interregional policy integration and validation of proposed actions). Increasing the level of sustainability of cruise tourism has direct positive impact on the sustainability of coastal tourism in Mediterranean. With 40€ billion economic impact and 6 million passengers, cruise tourism plays a key role in Europe and especially in the Mediterranean, being top cruise market and exerting strong socio-economic pressures. While cruise tourism is growing, the challenge is to exploit its full potential in a sustainable way. Sirocco had the ambition of tackling such challenge by providing: i) an integrated view of the current state of cruise tourism in the Mediterranean and its environmental, economic, and social impact; ii) a foresight of cruise tourism in the Mediterranean in the following decades; iii) evidence-based and transferable recommendations on developing sustainable and responsible Cruise Value Chains in the region; iv) promote coordinated strategies and policies at regional and transnational level regarding the development of a sustainable and responsible cruise maritime/coastal tourism. The project provided an integrated view of the current state of the Mediterranean cruise tourism (as a whole and per segment) and its impacts (environmental, economic, and societal) with a foresight of Mediterranean cruise tourism for the following decade. Based on conducted research of available data and five real case studies elaborated within the project (Valencia, Civitavecchia, Split, Rhodes, and Limassol) the project offered transferable recommendations on developing sustainable & responsible Cruise Value Chains in the Mediterranean area. Such recommendations, to be followed in different cruise sectors and tourism fields, have the purpose to create a unique interregional integrated plan of actions and policies that can fix and correct different gaps and inefficiencies identified during the analysis of the Value Chain in the five case studies aforementioned.

Results achieved:	The cruise value chain analysis has been done in the cities of Valencia (Spain), Civitavecchia (Italy), Split (Croatia), Limassol (Cyprus) and Rhodes (Greece). Based on such analysis, five action plans have been prepared, presented and validated in different workshops. Along with validation workshops, project partners organized press conferences to disseminate the project activities and results. A joint action plan for the whole Mediterranean area has been presented and elaborated online. The project has contributed towards achieving the Programme results outlined for its respective priority (e.g. level of sustainability of tourism in the Mediterranean coastal regions), by having delivered: i) five destination-specific Sustainable Cruise Value Chain Action Plans for enhancing the level of sustainability of cruise tourism, which were formulated based on the value chain analysis undertaken in each cruise destination (Valencia, Civitavecchia-Rome, Split, Rhodes, Limassol) focusing on the economic, environmental and social impacts of cruise tourism, the interaction between cruise tourism and cultural heritage, and the impacts related to seasonality; the Action Plan of each destination was finalized through local stakeholders validation, making use of the SIROCCO Sustainable Cruise Tourism Certification System; ii) a Sustainable Cruise Tourism Joint Action Plan for the Mediterranean region as a whole. Structured into priorities, objectives and actions for Mediterranean cruise destinations, the Joint Action Plan: (a) supports those Mediterranean ports and destinations that aim at a more sustainable cruise tourism sector; (b) federates Mediterranean stakeholders around a common set of high-importance priorities; (c) provides ideas for pilot projects to be included in future EU funding opportunities; (d) further promotes transnational cooperation among private and public cruise tourism actors in the Mediterranean; iii) a Sustainable Cruise Tourism Certification System, for assessing the level of sustainability of cruise tourism in the Mediterranean coastal regions: (a) compatible to the European Tourism Indicator System (ETIS); (b) addressing the specific requirements of cruise tourism; (c) integrating the three sustainability components (economic, environmental, social); (d) linking criteria, indicators, assessment types, data sources and cruise value chain actors.
Strengths:	• participative process in the pilots sites (10 workshops and validation meetings, and continuous exchange of information); • project included aspects of job creation, and preservation of cultural / historic heritage; • focus on all the aspects of sustainability (social, environmental and economic; • elaboration of environmental indicators (e.g. availability of waste facilities, impact on local natural heritage, percentage of waste recycled every year, share of the destination's five most visited natural sites by cruise passengers designed for protection, availability of shore-side electricity, share of renewable public transport, share of renewable at destination); • data collected from different sources (e.g. Clia, EUROSTAT, CLIA Europe, MedCruise, Hellenic Posrt Association, Puertos del Estado, SeatradeCruise, ITF, Friends of Earth); • the project provided plausible pilot scenarios for each port; • the approach employed for the formulation of the pilot scenarios was built on clear steps, such as the definition of the objectives and scenario of the pilot site, identification of the stakeholders required to be involved for a successful implementation of the pilot, analysis of the actions proposed by local stakeholders and testing before their implementation.
Challenges:	• validation of the Joint Action plan for the whole Mediterranean was done online but the response and participation of the Mediterranean community was limited; • the link between investments and job creation was not addressed by the project; • most of the data were collected through interviews, so they represent estimations of key stakeholders; • real time data not available (collection of data in real time was proposed as a pilot project); • participation of national or EU stakeholders was not as large as expected.

Lessons learnt/ recommendations:	• involvement of relevant and active stakeholders (voluntary based in our case) is uttermost important to gain insights and trends of the sector and its local/regional particularities); • validation of the action plans by largely representative working groups ensure credibility while facilitating consideration/implementation by the public authorities; • organize public meetings, or followed with press conferences, to activate stakeholders' participation.

Sources of information:

https://sirocco.interreg-med.eu/

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20. SUPPORT THE DIVING SECTOR TO CREATE A PROFITABLE ECOTOURISM ACTIVITY IN THE TAZA NATIONAL PARK



Blue Economy sector:	TOURISM AND RECREATION - Diving sector, ecotourism
Objective(s) of the project:	i) establishment of a sustainable tourism policy in the Park; ii) raising awareness of divers and local population towards marine conservation
Project promoters:	MedPAN, WWF MedPO, DGF
Project Partners:	Taza National Park (TNP) - League of rescue, first aid and underwater activities of the wilaya of Jijel (LSSAS - Jijel) - WWF MedPO - MedPAN
Geographical area(s) of implementation:	Algeria, SW Mediterranean
Target beneficiaries:	Taza National Park, diving clubs
Duration:	18 months (completed)
Overall budget:	54,286 EUR
Summary of the project:	The Taza National Park aims to implement a policy of sustainable tourism in the park, promoting its natural land and marine areas. To this end, it relied on private and non-profit sectors that are key stakeholders as to the development of tourism in the region. This project, supported by the National Park, had the objective to clarify the ecotourism development strategy in the park, implement activities associated with scuba diving, support the organization of private sector and raise the awareness of divers on the importance of marine conservation.
Results achieved:	i) The Taza Park has a strategy for the development of sustainable tourism; ii) the first Algerian underwater trail has been created; iii) 18 people were trained in the management of underwater trails; iv) a national underwater photo contest was organized (2012); v) a partnership agreement between the Park and a local diving club is signed to ensure scientific monitoring and management of the underwater trail; vi) awareness and cleaning campaigns were organized including young people and families; vii) evolution of the national legislation to include underwater trails, which should facilitate future development on other sites.
Strengths:	• underwater trails will be used for a dual objective: developing an ecotourism activity (diving clubs) and raising awareness of the public about marine conservation; • potential for jobs creation and the preservation of the marine environment through the creation of an MPA in the area;

	• underwater trails are concrete tools for sustainable development. They can create new jobs in an environmentally friendly and responsible sector (ecotourism) and, secondly, be used as support for environmental education; • underwater trails could be used as an effective tool for monitoring. Scientists could be an important stakeholder by doing assessment of biodiversity in order to highlight the ecosystem services of the area; • underwater trails could be a very interesting field work for academics to test different protocols in the field of marine conservation (e.g. visual census surveys of fish); • underwater trails are an instrument for integrating people with social or physical difficulties which is suitable for a large public (youth, children, family, seniors, etc.); • underwater trails are a practical tool to gather stakeholders and promote the sharing of data between diving clubs, scientists and the future MPA management body within a perspective of participatory science; • creation and proper management of underwater trails facilitate a transversal impact across stakeholders (tour operator for the creation of jobs, National Park staff for control, scientists for the assessment, etc.); • it was a pilot project in Algeria. The diving club involved in this project contributed to train other clubs all over the Algerian coast and another underwater trail was created 2 years after on a basis of sharing of good practices.
Challenges:	• the ongoing process for the creation of the MPA and the absence of an effective management body; • most local tour operators do not include ecotourism packages in their offers; • absence of clear legislation for the development and promotion of underwater trails, something hard to set up because it requires the collaboration between several administrations (environment, tourism, trade, etc.); • implementation of the monitoring tasks by all the stakeholders (Taza National Park, diving club, scientists, etc.); • train the staff of the future MPA as well as the members of diving club in order to gain scientific knowledge; • a transboundary approach is one of the hardest tasks to put in place mainly due to the centralized and sectorial approach and the lack of governance at local level;
Lessons learnt/ recommendations:	• seek for external expertise for developing sustainable tourism strategies and marine trail management; • public/Private Partnership: the Park positions itself to partner up with private operators (local dive clubs, national diving league) in order to initiate, train, and provide development tools to these partners (underwater trail, training, photography contest, etc.) as well as to help revitalize non-profit sector; • in order to avoid damage, underwater trail signs must be removed and placed only during specific outings organized by diving clubs, something that increases management but also increases the equipment durability. • support underwater photo competitions and make them annual events; • conduct scientific monitoring campaigns through agreement with diving clubs and promote the results to assess the effects of the protection or non-protection of the sites; • the process of developing the awareness of local operators is in its infancy, and clubs and the National Diving League are still insufficiently trained and experienced to independently manage events, but significant progress has been achieved; • the experience of the Taza National Park, as well as the knowledge gained by the stakeholders through the trainings organized within the project, can facilitate the creation of underwater marine trails in other parts of the Algerian coast.

Sources of information:

Nocentini, L., 2013. Capitalisation of results from projects conducted in Mediterranean MPAs and supported by MedPAN from 2011 to 2013. MedPAN. 54pp

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21. SAFE AND ECOLOGICAL ANCHORAGE "STOP ANCRE"

Blue Economy sector:	TOURISM AND RECREATION
Objective(s) of the project:	introduce the use of anchors that have minimal impact on the seabed
Project promoters:	GMPRO Stop Ancre
Project Partners:	Pôle Mer Méditerranée; Riviera yachting network; Fédération des Industries Nautiques; April marine; Calanques National Park, Chamber of Commerce of Marseille, Ecogestes Méditérranéen, WEB Orange Marine,
Geographical area(s) of implementation:	Mediterranean region
Target beneficiaries:	residents, tourists, professional fishermen, vessels and national navy
Duration:	on-going (until end of 2020)
Overall budget:	1 000 000 EUR
Summary of the project:	The project objective is to produce and market a type of anchor with minimal impact on the seabed. This type of anchor will also reduce accidents due to moorings protecting crews and boats. The aim is to produce affordable ecological anchors for most boaters owing a boat under 6 metres though the anchor is adaptable to yachts, cargo ships and steamers. Throughout summer uncontrolled anchoring is carried out daily by hundreds of boats on meadow grows in Mediterranean protected marine areas despite the explicit prohibition of casting down anchors onto the carpet of Posidonia. "Stop-anchor" has the advantage of firmly clinging to the sand where it was laid without drifting due to the force of currents and winds, thus without ripping out the Posidonia from the roots as it often occurs with traditional anchors. The system makes it possible to use a minimum chain on the wetting and reduce the length of the mooring line.
Results achieved:	i) the anchor is based on a patent, and is currently sold as a kit (79 EUR) adaptable to commercial flat anchors; ii) 800 units have been sold over the last two years receiving a 9.3/10 by fifthy boaters on several hundred anchorages with wind forces up to force 8; iii) "Stop-anchre" has been analyzed by twelve specialized magazines and described as "…a system considerably improving the grip of flat anchors and considerably reducing the impact on the underwater world"; iv) a private company equipped its 15 ecological charter boats (Ecoloc) in the port of Cassis with «Stop-anchre"; v) the Calanque National Park wants to assign to "Stop-anchor" the label «Esprit Parc».
Strengths:	• promote underwater environmental protection, including recycling of the commercial flat anchors; • enhance crew and boat safety; • creation of manual and commercial jobs (managers, commercial staff, designers, laser cutters, welders, etc); • a sub-structure of the company is devoted to research and development in order to improve the design of the anchor; • the project received the formal support of relevant actors, such as the Regional Council, the Biodiversity Council, the Pôle Mer Méditerranée, the Chamber of Commerce of Marseille, the Calanque National Park; • the standard length for an anchor chain is one and a half the length of the boat; this system works well also shorter chains; • adaptable to the different contexts as proven by the demand from other European countries, China and United States.

Challenges:	• equipping all second-hand boats in Europe (approx. 6 million); • equipping yachts, cargo ships and cruise ships (same technology); • recover exisiting anchors for recycling; • gain the support of marine protected areas and boating schools.
Lessons learnt/ recommendations:	• when getting into a skid, yachts, cargo ships and steamers have huge impact to seabed, fish eggs, molluscs, young shells, worms and modify the whole eco-system; • boaters are willing to buy anchors when designed for their safety and comfort, the concept of ecological anchor begins to be a significant variable of the purchase; • no regulation addresses the use of ecological anchors in the protected areas; local authority should require boaters to use certified eco-friendly anchors within or near marine protected areas;

Sources of information:

http://www.eco-nautisme.com/

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22. LIFE BLUE NATURA



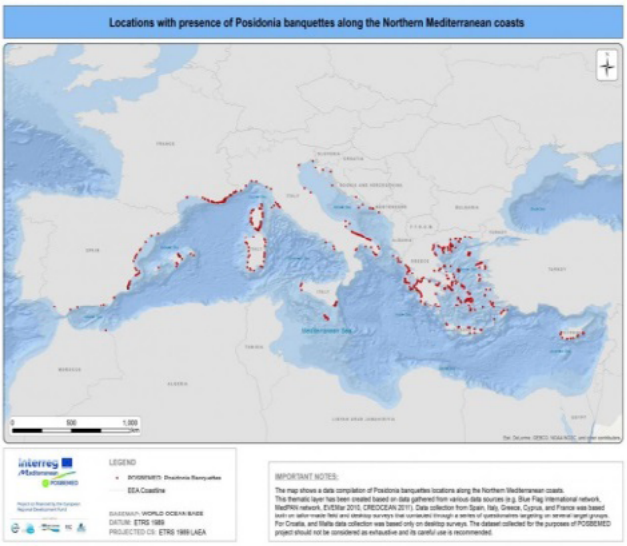
Blue Economy sector:	BIOLOGICAL RESOURCES
Objective(s) of the project:	To conserve "blue carbon deposits" and sequestration services provided by the habitats of tidal marshes in Andalusia and seagrass beds, with emphasis on those accumulated in the soil. The final objective is to finance their conservation through carbon markets and the compensation of CO2 emissions under the voluntary regime.
Project promoters:	Consejería de Agricultura, Ganadería, Pesca y Desarrollo Sostenible (Government of Andalucía)
Project Partners:	Agencia de Medio Ambiente y Agua, UICN-Med, CSIC-CEAB y Asociación Hombre y Territorio. Co-financed by Fundación Cepsa
Geographical area(s) of implementation:	Andalusia (Spain)
Target beneficiaries:	public and private enterprises willing to compensate emissions
Duration:	on-going; 2015-2019
Overall budget:	2.513.792 EUR
Summary of the project:	The main elements of the project are the following: i) quantify carbon deposits and sequestration rates of tidal marsh habitats and marine phanerogamous with special emphasis on that accumulated in the soil, and analyze the evolution over the coming decades; ii) conduct an approximative evaluation of the environmental services generated by these habitats related for mitigating climate change; iii) build on existing initiatives for financing the projects on the conservation and/or restoration of blue carbon sinks within the current mitigation and adaptation policies, with special attention to the markets for emissions compensation; promote the necessary tools/procedures, replicable at international level, to allow the inclusion of these kind of projects in such markets. One of the specific objectives of the project is the development of a regulatory framework for the new law (8/2018, October 8) on "measures against climate change and for transition to a new model energy in Andalusia», namely elaborating an Andalusian standard for the certification of blue carbon credits coming from conservation/restoration projects of seagrass beds and tidal marshes, identification of standard projects for the creation of a catalog of "blue carbon" compensation projects in Andalusia, and involving and building the capacity of key private/public sectors to ensure the development and continuation of such "blue carbon" conservation programs in the future.

Results achieved:	• Quantification of carbon sequestration and sink service of the coastal ecosystems in Andalusia, including seagrass meadows (approximately 11,803 ha) and tidal marshes (specifically those of Bahía de Cádiz and Marismas del Odiel). The estimates are available on the project website www.life-bluenatura.eu; • The study on the stocks and flows of carbon in tidal marshes carried out by the Project is one of the most detailed so far; • At present, 2 projects for the conservation and restoration of blue carbon sink ecosystems (meadows and tidal marshes) have been drafted; • A manual for the certification of blue carbon projects generated by actions of conservation and regeneration of marine grasslands and tidal marshes is under preparation together with an "Andalusian Certification Standard" for conservation/restoration projects of seagrass meadows marine and tidal marshes. The results are expected to be available in the first semester of 2020; • Multiple activities are carried out in the field of capacity building, communication and dissemination of the project results.
Strengths:	• In most cases, companies linked to blue economy prefer to offset their emissions through the conservation and restoration of sinkholes associated with coastal ecosystems than with terrestrial ecosystems less linked to their activity. The new law contemplates and gives legal coverage to this option first time ever, so it is necessary to develop all the necessary instruments, namely the standard for credit certification of blue carbon and a list of conservation/restoration projects within the Andalusian System of Emissions Compensation; • the Project allows mitigating the effects of climate change by improving/restoring the capacity of coastal ecosystems to remove CO2 from the atmosphere and store it under the ground in a stable manner for hundreds and hundreds of years; • it develops tools enshrined in the most recent Andalusian policy/legislation against climate change and for the transition to a new energy model; • the Project published for the first time a detailed study of the sink associated with tidal marsh ecosystems and a large-scale study on the sink in seagrass meadows. From the scientific point of view, the techniques and methodologies used are very innovative; • large amount of data and information, especially cartographies of coastal ecosystems and carbon sinks in Andalusia, available at the Environmental Information Network of Andalusia http://www.cma.junta-andalucia.es/medioambiente/site/rediam; • replicability of the project, especially in the countries of the Mediterranean region, is one of the main strengths of this project. In particular when it comes to the methodological approach.
Challenges:	• marine ecosystems, specifically marine phanerogams (Posidonia oceanica) have low growth rate which, added to the high costs for their conservation/restoration, makes difficult for projects focusing on these ecosystems to be profitable from the financial point of view in the current carbon market. Therefore, the challenge is to give them an ecosystemic and social value; • coastal areas are spaces with increasing pressures, and it is crucial to raise awareness of all stakeholders about the services offered by coastal ecosystems; • it is necessary to disseminate these operational tools especially among the private sector;
Lesson learnt/ recommendations:	• the project ends in the first half of 2020, and it is necessary to continue working with the private sector, public authorities, managers and media. The regional government should elaborate a work strategy in the medium and long-term in order to keep all these actors involved and committed.

Sources of information:
www.life-bluenatura.eu

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23. POSBEMED



Blue Economy sector:	BIOLOGICAL RESOURCES
Objective(s) of the project:	Beach management implies multi sectoral actors (target beneficiaries) with a focus on Posidonia banquettes which must not be considered as marine litter. Posidonia banquettes management requires an adaptive approach to tackle societal changes while providing biodiversity benefits. POSBEMED aims to enhance awareness on the benefits of this natural capital by offering tools to improve management capacity, with practical and effective guidelines for beach users and managers. POSBEMED's specific objectives are: i) to identify and analyze the current management practices of Posidonia beaches/dunes systems and banquettes in Mediterranean countries and provide a socioeconomic evaluation synthesis of its ecosystem services; ii) integrate and adapt tools for management of Posidonia beach/dunes in local sustainable growth and good practice guidelines for a holistic and integrated approach in conservation and management efforts; iii) to propose a model of governance and a common strategy for the management of Posidonia beach/dune systems in the Mediterranean Natura 2000 sites and other coastal protected areas.
Project promoters:	EID Méditerannée (France)
Project Partners:	IUCN (Spain), ECO-logica srl (Italy), HCMR (Greece) and Foundation IMC (Italy).
Geographical area(s) of implementation:	Mediterranean Sea (Spain, France including Corsica, Italy including Sardinia, and Greece)
Target beneficiaries:	tourism related quality labels such as the "Blue flag network", beach users, beach cleaning companies, municipalities, marine protected area, coastal camping sites, hotels.
Duration:	18 months, completed.
Overall budget:	596 750 EUR
Summary of the project:	The Posidonia oceanica is a Mediterranean endemic marine flowering plant (seagrass) forming extensive underwater meadows which are important contributors to the bioremediation of coastal waters and shoreline protection. Posidonia residues (withered leaves, fibers and rhizomes) are regularly stranded and beached ashore, where they help reduce wind and swell wave energy and act as seedbanks for dune formation, increasing thus the overall resilience of the coast to natural and climate change effects.

	This natural capital, however, is often perceived as an aesthetic problem, especially in highly frequented tourist zones. To ensure that the coasts and beaches remain attractive for tourism, various and sometimes destructive practices (tractors and heavy machinery) are used to remove tons of this material, even in protected areas with fragile sandy beaches and dune systems. POSBEMED analyzed the management, conflicts and opportunities of the Mediterranean coast, particularly in coastal protected and Natura 2000 areas where interdependence between seagrass meadows, dunes and beaches occurs, with a view to provide a Mediterranean strategy and governance model for enhancing management effectiveness of these areas and beyond. By integrating the results of several past projects and examining management practices, stakeholders' perception and expectations, guidelines with innovative management tools were produced to enhance local administrations and coastal managers' capacity across the Mediterranean. The results will be used to assist in improving protection measures and enhancing management effectiveness on these connected habitats, while promoting local blue growth and nature-based solutions on the use and sustainable management of the seagrass banquettes
Results achieved:	i) qualitative assessment of the management of Posidonia beaches/dunes in the Mediterranean; ii) GIS database of tourist activities on the coast, Posidonia and banquettes/stranded litter, dunes and protected areas; iii) socio-economic evaluation of Posidonia-beach/dunes; iv) review of existing guidelines for sustainable beach and stranded seagrass management; v) analysis of the coverage of specific coastal protected and Natura 2000 habitats, existing protection gaps and connectivity between land-sea surface; vi) definition of a strategy and action plan for the Mediterranean region; vii) capacity built on Posidonia beach management and conservation.
Strengths:	• the project provided a first ever overview of the Posidonia beach coastal ecosystems and local beach management practices across the Mediterranean, including existing gaps, recommended approaches and elements for a common transnational strategy and action plan at Mediterranean level; • improvement of local management practices on beach banquettes and establishment of a set of criteria to assess their grade of sustainability; • the project raised awareness of the importance of Posidonia beach-dune systems not only in terms of biodiversity conservation but also, and especially, in socio-economic terms, including climate change resilience.
Challenges:	• lack of public recognition of the role of banquettes in beach ecosystems. The presence of banquettes on the beaches is perceived negatively when choosing the destination, and their acceptance is even lower among tourist operators and local authorities; • the sustainable management of Posidonia beach-dune systems requires a multidisciplinary approach, this implies the need to involve different economic sectors that often show little interest in collaborating.
Lesson learnt/ recommendations:	• management approaches should consider those factors that control the dynamics of the Posidonia littoral zone and the formation of banquettes, the density of banquettes, the presence of sensitive areas (e.g. protected sites) as well as the frequency and density of beach users, and the vulnerability of the coastline; • Posidonia beach/dune systems must be considered as an integrated system depending on the sedimentary balance and flow of matter between the different compartments. Given the limited knowledge of their interrelation, a precautionary principle should be applied in their management; • the ecosystem-based approach should be used and the goal of "good environmental status" should integrate the formation of banquettes in the beaches; • criteria for quality beach labels should place stronger emphasis on the importance of seagrass meadows and banquettes in sandy beaches with coastal dunes;

Lesson learnt/ recommendations:	• to have a management approach to Posidonia beach-dune systems capable to trigger a positive dynamic (including creation of jobs and attraction of investments), a proper regulatory and legal framework is needed. As a matter of fact, the current lack of clear regulations and specific legislation on the removal of banquettes and beach wrack in most areas is evident (local authorities often apply arbitrary rules for their collection); • the popularity of beach certification schemes across the Mediterranean countries, such as the Blue Flag designation, has increased notably over the years. Actions should be taken in order to fill the gap existing in these schemes about beach wrack material and procedure for their management; • medium/long term management policies and strategies should be developed for all the beaches where banquettes accumulate, and such policies and strategies should be part of a wider framework for achieving integrated coastal zone management. Common action plans should be better defined based on common challenges, lessons learnt and opportunities arising in different regions and in different local contexts. Out of these efforts, good practice guidelines could be elaborated and tested in protected Mediterranean areas, including Natura 2000 sites.

Sources of information:

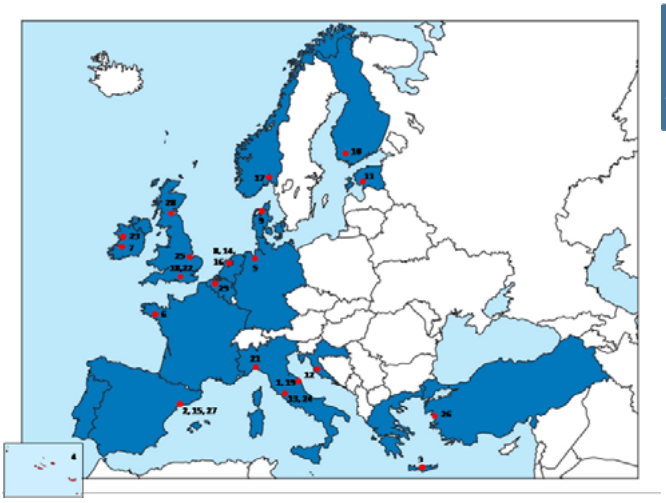
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24. MERCES - MARINE ECOSYSTEM RESTORATION IN CHANGING EUROPEAN SEAS



Marine Ecosystem Restoration in Changing European Seas

Blue Economy sector:	BIOLOGICAL RESOURCES
Objective(s) of the project:	i) improve existing, and develop new, restoration/rehabilitation actions on vulnerable and critical European marine habitats including shallow soft and hard bottoms as well as selected deep-sea ecosystems; ii) provide tools and guidelines for the integration of a "restoration agenda" into major policies on (blue and green) economic growth by analyzing the consequences of marine restoration on ecosystem services as well as on policy, governance and socioeconomic issues; iii) adapt restoration measures to increase the resilience of ecosystems to climate change; iv) enhance EU conservation capacity and preserve natural capital; v) provide robust contributions to the EU 2020 Biodiversity Strategy, the Water Framework Directive, the Marine Strategy Framework Directive and the Maritime Spatial Planning Directive; vi) conduct costs-benefits socio-economic analyses for marine restoration measures; vii) identify the benefits of establishing a network of restoration sites; viii) identify the policy/legal/governance frameworks facilitating the success of restoration actions; ix) create new employment opportunities and develop world markets for European industry.
Project promoters:	Università Politecnica delle Marche, Italy
Project Partners:	28 Partners from 16 countries: Agencia Estatal Consejo Superior de Investigaciones Cientificas (Spain); Hellenic Centre for Marine Research (Greece); Imar-Istituto do Mar (Portugal); Alfred-Wegener-Institut Helmholtz-Zentrum Fuer Polar-und Meeresforschung (Germany); Institut Francais de Recherche pour l'Exploitation de la mer (France); National University of Ireland, Galway (Ireland); Wageningen University (Netherlands); Aalborg Universitet (Denmark); Abo Akademi (Finland); Tartu Ulikool (Estonia); Faculty of Science, University of Zagreb (Croatia); Consorzio Nazionale Interuniversitario per le Scienze del Mare (Italy);Stichting Nederlandse Wetenschappelijk Onderzoek Instituten (Netherlands); Ecopath International Initiative Asociacion (Spain); Stichting Katholieke Universiteit (Netherlands); Norsk Institutt for Vannforskning (Norway); United Kingdom Research and Innovation (United Kingdom); Ecoreach SRL (Italy); Studio Associato GAIA SN (Italy); Deep Seas Environmental Solutions LTD (United Kingdom); Marine Law and Ocean Policy Research Services Ltd (Ireland); WWW ITALIA (Italy); WCMC LBG (United Kingdom); Akdeniz Koruma Dernegi (Turkey); Universitat de Barcelona (Spain); Heriot-Watt University (United Kingdom); IODINE (Belgium)
Geographical area(s) of implementation:	European Seas

Target beneficiaries:	Business, Academia, Research institutes, Environmental Associations, general public.
Duration:	on-going (2016-2020)
Overall budget:	6.651.118 EUR
Summary of the project:	The project MERCES is focused on the restoration of different degraded marine habitats, with the aim of: i) assessing the potential of different technologies and approaches; ii) quantifying the returns in terms of ecosystems services and their socio-economic impacts; iii) defining the legal-policy and governance frameworks needed to optimize the effectiveness of the different restoration approaches. Specific aims include: i) improving existing, and developing new, restoration actions of degraded marine habitats; ii) increasing the adaptation of EU degraded marine habitats to global change; iii) enhancing marine ecosystem resilience and services; iv) conducting cost-benefit analyses for marine restoration measures; v) creating new industrial targets and opportunities. To achieve these objectives MERCES created a multi-disciplinary consortium with skills in marine ecology, restoration, law, policy and governance, socio-economics, knowledge transfer, dissemination and communication. MERCES started from the inventory of EU degraded marine habitats (WP1), conducted pilot restoration experiments from the shallow soft (WP2) and hard bottoms (WP3) to the deep sea (WP4) and assessed the effects of restoration on ecosystem services (WP5). The legal, policy and governance outputs will make effective the potential of marine restoration (WP6) and WP7 will be dedicated to assessing the socioeconomic returns of marine ecosystems' restoration. The transfer of knowledge and the links with the industrial stakeholders will be the focus of WP8. The results of MERCES will be disseminated to the widest audience (WP9). The project will be managed through a dedicated management office (WP10). MERCES will contribute to blue growth by: i) improving the EU scientific knowledge on marine restoration, ii) contributing to EU Marine Directives; iii) implementing the Restoration Agenda, iv) enhancing the industrial capacity in this field, v) increasing the competitiveness of EU in the world market of restoration, and vi) offering new employment opportunities. MERCES is a multi-disciplinary Consortium (28 partners), including business (6 SMEs from 4 EU countries), academia (11 partners from 10 EU countries), research (8 partners out of which 7 from EU countries and 1 from Norway) and environmental associations with skills in marine ecology, spatial modelling, marine ecosystem restoration, law, policy and governance, socio-economics, knowledge transfer, dissemination and communication. Details and contacts of the different partners are reported in the MERCES website.
Results achieved:	i) current marine pressures and driving changes in marine habitats; ii) state of the knowledge on marine habitat restoration and literature review on the economic cost and benefits of marine and coastal ecosystem service restoration; iii) pilot studies testing different methods for marine restoration in shallow soft bottoms habitats: Zostera marina, Posidonia oceanica, Mytilus edulis, Pinna nobilis, Macoma balthica); coastal shallow hard bottoms and mesophotic habitats: Laminaria hyperborean, Cystoseira balearica, Paracentrotus lividus, Arbacia lixula, Strongylocentrotus droebachiensis, Chondrilla nucula, Aplysina aerophoba, Spongia officinalis, Corallium rubrum, Paramuricea clavata, Eunicella singularis, E. cavolini, Pentapora fascialis); in deep-sea habitats: Callogorgia verticillata, Paracalyptrophora josephinae, Viminella flagellum, Lophelia pertusa, Corallium sp.); iv) review of existing international governance structures, regarding the conservation, restoration and recovery of marine ecosystems; v) review of current EU and international legal frameworks; vi) review on restoration, conservation and recovery of marine ecosystems in the four regional EU seas; vii) analysis of the social acceptance of the marine restoration based on questionnaires; viii) analysis of the cost-benefits of the restoration actions in different habitats along the EU seas; ix) transfer of scientific knowledge, involving public, private and industrial stakeholders: dedicated newsletters and webinars available in the MERCES website; x) publication of scientific papers stored in the MERCES repository in ZENODO; xi) dissemination of the results of the project to the largest audience possible (experts and non-experts, including industry, administration and general public): ocean literacy, citizen science, training, newsletters.

Strengths:	• first directory of degraded EU marine ecosystems; • including restoration actions of marine habitats at different levels of governance; • field experiments and environmental/socio-economic analyses on the performance of restoration actions in selected habitats and ecosystems, which allow identifying key processes and factors for building/managing marine ecosystem resilience; • field and laboratory experiments allow testing new restoration methodologies, tools and practices as well as enhancing methods that are being practiced already. Pilot studies allow to set up restoration protocols in different marine environments covering shallow and deep-sea habitats and to assess the effectiveness of the proposed actions for a new generation of restoration operators. • frame ecological restoration of marine ecosystems in terms of new jobs opportunity.
Challenges:	• ensure that small-scale pilot restoration actions on the ability of marine habitats to recover ecosystem services, along with the production of ecosystem resilience models, contribute to the development of large-scale restoration protocols; • encourage local and EU administrations to adopt the restoration techniques and technologies developed, improved and validated in the framework of the project; • translate project results into practical guidance for the industry on how and when implementing marine restoration measures. Coupled with regulatory reform, this would help stimulate private-sector innovation in marine restoration, create economic opportunity and promoting sustainable business; • ensure that the wide multi-disciplinary community of scientists, public/private industrial stakeholders and policy makers exchange experiences, identify strengths, weaknesses and best practices.
Lesson learnt/ recommendations:	• business should be at the heart of the "restoration agenda" through the transfer of the latest scientific knowledge to public/private industrial stakeholders so to provide practical solutions and new opportunities of industrial development; • public engagement, communication of activities and dissemination of results are priorities issues along with the transfer of knowledge to the whole restoration community, including business, public administrations and civil society. It is crucial to gain social approval of marine restoration measures while providing administrations and policy makers with guidelines on sustainable, innovative, viable and tested marine restoration actions for different marine habitats/ecosystems.

Sources of information:

MERCES website: http://www.merces-project.eu/

MERCES scientific publication repository in ZENODO MERCES project community (link also available in the MERCES website);

Most of the deliverables are open access and available in the MERCES website once the documents are approved by the European Commission.

MERCES is present in different social media: @merces.eu.project; @MERCES_eu; Research Gate; YouTube

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25. MA-GEF INTEGRATED COASTAL ZONE MANAGEMENT

Blue Economy sector:	BIOLOGICAL RESOURCES
Objective(s) of the project:	To pilot the application of Integrated Coastal Zone Management (ICZM) approach in the Project Area on the eastern Mediterranean coast of Morocco
Project promoters:	Ministry of Energy, Mines, Water and Sustainable Development/Sustainable Development Department (SDD)
Project Partners:	Ministry of Agriculture, Maritime Fishery, Rural Development and Water and Forests, the Secretary of State in charge of Tourism, the High Commission for Water and Forest and Fight against Desertification, and the Ministry of Interior
Geographical area(s) of implementation:	Focused activities were piloted in four project sites within the Oriental Region (administrative unit) of Morocco: i) the coast of Saidia-Ras El Ma, including the Ramsar site of the Moulouya River estuary; ii) the rural commune of Beni Chiker, which is located in the Nador Province; iii) the Nador Lagoon, and iv) the rural commune of Boudinar, located in the Driouech Province.
Target beneficiaries:	The direct beneficiaries ranged from small holder farmers and fishermen to private sector investors, as project activities seek to promote more profitable and sustainable use of natural resources while maintaining biodiversity and ecological values upon which tourism is based. At community level, primary beneficiaries were small holder farmers, subsistence and semi-industrial fishermen, local residents employed in the tourism sector, women's groups involved in apiculture, young people who will be involved in ecotourism activities and community planners who will benefit from project investment in ICZM and linked spatial development planning. Altogether, direct beneficiaries were about 7,500. In addition, the project brought indirect benefits to all the inhabitants of the project area (approximately 300,000). Institutional beneficiaries of the ICZM project included decision makers at the national and regional levels, civil society, boards of communes, etc. who gained experience in applying the ICZM approach.
Duration:	July2012-December 2017
Overall budget:	over EUR 25 million. The Government of Morocco provided USD 20 million to support a USD 5.18 million grant from the GEF.
Summary of the project/initiative:	Based on the lessons learned from successful coastal projects around the globe, the project adopted a similar approach, which recognizes that environmental protection is rarely sustainable over the long term without linkages to economic development. The project builds on three components: 1) capacity building and institutional strengthening to incorporate ICZM approach into local development planning, which aimed at strengthening the capacity of government institutions and local communities to incorporate the ICZM approach in their local development plans. Activities included: (a) promoting awareness and building capacity of the provincial and local government to apply ICZM in the project area; (b) technical assistance for incorporating ICZM in the development plans of six selected communes; (c) piloting the spatial development method in the communal plans for one of the six communes. This method aimed at mainstreaming ecosystem-based methods for biodiversity conservation and sustainable economic development of marine and coastal environments; 2) investments to improve coastal resource management and livelihoods through co-management approach, which aimed at improving (a) conservation and management of sensitive coastal areas, (b) management of fisheries, (c) diversify income-generating activities from agriculture, (d) promote the development of ecotourism; 3) project management and M&E, which aimed at project management support and capacity building of the Project Management Unit.

Results achieved:	The project successfully piloted the application of an integrated coastal zone management approach in the eastern Mediterranean coast of Morocco by: (i) integrating ICZM concepts into Local Development Plans in six communes, (ii) restoring and rehabilitating 20 hectares of degraded wetlands and dune ecosystems at Moulouya and installing water pipes to re-establish the flow of water from the Ain Chebbak spring to wetlands located in douar Cherarbas; (iii) installing artificial reef facilities designed to support coastal fishing activities, preserve biodiversity and marine resources; (iv) establishing 2 seaweed and shellfish farm pilots with signed co-management conventions; (v) planting 500 hectares with fruit trees adapted to local climatic conditions under sustainable land management practices. One of the main outcomes is that pilot communes requested regional decision-makers to scale-up activities at the regional level and integrate ICZM in the development of regional action plans, and the current Governor is supportive of this development. The project has benefitted 224 farmers organized in cooperatives.
Strengths:	• fully aligned with main national priorities and objectives; • participatory consultative meetings, sector-based interviews, visits to proposed project locations, and discussions with beneficiaries were undertaken throughout the identification stage. Strengthen the capacity of relevant stakeholders to incorporate ICZM methodology and climate change adaptation into local development planning in the eastern Mediterranean coastal areas of Morocco; • fisheries management improvements through support to artisanal fishermen;
Challenges:	• limited experience of responsible national actors in the implementation of World Bank projects, limited knowledge of World Bank's procurement procedures. • institutional challenges at the national level following a government reshuffle during the project implementation, • lack of adequate coordination and engagement at the level of governmental institutions in the early phases of the project, including lack of clarity about roles and responsibilities of different stakeholders
Lesson learnt/ recommendations:	• public consultation and community engagement are essential to building trust and ownership and to sustaining an ICZM approach on the ground; • robust and iterative fiduciary assessments of project implementation agencies can help anticipate and mitigate implementation challenges by identifying gaps; • target capacity building needs at the start of the project help devise a comprehensive and coherent training plan that can prevent early implementation delay; • an actively engaged and supportive Country Management Unit (CMU) is critical for pilot projects that have inherent implementation risks; • tools such as ICZM benefit greatly from piloting and learning by doing followed by replication and scaling up.

Sources of information:

N/A

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26. CLEANING LITTER BY DEVELOPING AND APPLYING INNOVATIVE METHODS IN EUROPEAN SEAS (CLAIM)



Blue Economy sector:	MULTI-SECTORAL - Waste disposal, coastal/maritime tourism, fishing, coastal protection, biodiversity
Objective(s) of the project:	The objectives of the project are the following: i) advance in the knowledge of the current status of marine plastic pollution; ii) develop innovative technologies to reduce the amount and impact of plastic pollution on the ecosystem-based services of the Mediterranean and Baltic Seas; iii) set the basis for operational forecasting of the impacts of marine plastic litter pollution on ecosystem services; iv) apply an ecosystem services angle (such as fishing industry) to identify areas where intervention with project-developed technologies has the greatest potential to tackle marine litter and produce positive impact on human health (food chain) and economic sectors (marine and coastal tourism activities); v) test the economic feasibility, social acceptance and enabling institutional framework for the uptake and upscaling of innovative marine litter reduction technologies; vi) promote policy action, raise public awareness and influence relevant decision-making processes through focused stakeholder engagement and communication strategies.
Project promoters:	Coordination: Hellenic Centre for Marine Research, Greece Dissemination partner: Pensoft Publishers, Bulgaria
Project Partners:	i) Hellenic Centre for Marine Research, Greece; ii) Danish Meteorological Institute, Denmark; iii) KTH Royal Institute of Technology, Sweden; iv) Institute of Marine Sciences, National Research Council, Italy; v) Denmark's Tekniske Universitet, Denmark; vi) Institute for Environmental Studies, Vrije Universiteit Amsterdam-The Netherlands; vii) Pensoft Publishers Ltd, Bulgaria; viii) IRIS SRL, Italy; ix) Iker Consulting European and Regional Innovation, Spain; x) Kiel University, Germany; xi) Tallinn University of Technology, Estonia; xii) Institut National des Sciences et Technologies de la Mer, Tunisia ; xiii) Marine and Environmental Research Centre - Universidade de Coimbra-UC, Portugal; xiv) PP Polymer AB, Sweden; xv) Lebanese University, Lebanon; xvi) Waste Et Water Sarl, France; xvi) Institute for European Environmental Policy, United Kingdom; xvii) New Naval Limited Liability Company, Greece; xviii) Université d'Aix Marseille, France.
Geographical area(s) of implementation:	Mediterranean and Baltic Seas.
Target beneficiaries:	Wastewater treatment plants, coastal municipalities, ports, commercial vessels and ferryboats
Duration:	Nov 2017-Oct 2021 (ongoing)
Overall budget:	6.185.612 EUR

Summary of the project:	CLAIM (Cleaning marine Litter by developing and Applying Innovative Methods) is seeking out innovative strategies for prevention and in situ management of visible and invisible marine litter in the Mediterranean and the Baltic Sea. Marine litter impacts everybody and everything. Reducing and eliminating plastics from oceans is a daunting but essential challenge for achieving sustainable development (e.g. SDG 6, 12 and 14). Five key technological innovations are being developed to prevent litter from entering the sea at two main source points, namely wastewater treatment plants and river mouths: i) an automated cleaning device is being developed and tested to filter out micro-plastic and prevent larger micro-litter from entering in marine areas; ii) a photocatalytic device which use a project-developed green nanostructured coatings to degrade invisible nano-plastics (e.g. polypropylene, polyethylene, PVC and nylon) by using the power of visible light; iii) floating booms equipped with cameras placed at river mouths to collect visible floating pieces before or as they enter the sea; iv) a small scale thermal treatment device that uses clean plasma technology to pyrolise floating plastic litter items, producing fuel (syngas) and recoverable heat to be exploited on marine litter-collecting boats and at port facilities; v) an automated passive flow-through filtering system for detecting micro-plastic in open seas using ships of opportunity or FerryBoxes supported by a seawater sampling device. Since real-world testing to validate the innovations proposed is at the core of the CLAIM innovation cycle, they have been tested in-situ in several areas in the Mediterranean and Baltic Sea (e.g. Lyon Gulf, Ligurian Sea, and Saronikos Gulf). Besides the tests, the project seeks out new business models to enhance the economic feasibility for upscaling CLAIM innovations. The project is also developing innovative modelling tools to assess and create informative maps about visible and invisible marine plastic pollution at basin (Mediterranean Sea and Baltic Sea) and regional scales (e.g. Saronikos Gulf, Gulf of Lyon, Ligurian Sea, Gulf of Gabes, etc.). Data collected during the project will feed into new models determining the concentrations of macro and micro-litter on basin scale both in Mediterranean and the Baltic Sea.
Results achieved:	i) a dataset on visible and invisible marine plastic litter based on historical observations in the Baltic Sea and Mediterranean Sea has been set up; ii) marine plastic litter source datasets have been compiled for the Mediterranean and Baltic Seas; iii) first testing of CLAIM's pre-filtering device has been successfully conducted; iv) nano-coating[10] advancement, a device to be used for degradation of micro plastics in water and specifically in Waste Water Treatment plants; v) the establishment of an online data visualization tool for macro and micro litter is in its final stage and it is now validated in the field; vi) the floating booms development at river mouth for collecting macro litter is in its final stage; vii) existing methods for monitoring and managing plastic litter and related guidelines and regulations have been gathered for both seas; viii) a review of the mode and impact of visible and invisible plastic pollution on organism vital rates and habitat quality was compiled (both micro and macro plastics on ecosystem services with a focus on litter impact evaluation in commercially relevant seafood species in the Mediterranean and Baltic Seas); ix) a global scan of existing marine litter clean-up technologies was carried out, including their cost-effectiveness, underlying business models, and a review of existing enabling policy environments.
Strengths:	• propose answers to one of the major environmental concerns nowadays through cost-effective, environmentally friendly and innovative solutions; • positively impact society (public health) and coastal areas economy (preservation of cultural/historic heritage and biodiversity); • introduce new business models to evaluate cost-efficiency and feasibility of the proposed solutions within existing policy and legal frameworks based on social acceptance; • technologies used meet real demand and are suitable for uptake and upscaling, and those already validated have the potential to be commercialized throughout Europe and in other parts of the world.

10 The process by which a thin layer of thickness about <100 nm is deposited on the substrate for improving some property or for imparting new functionality.

Challenges:	• research carried out in laboratories allow a wide range of marine litter parameters to be collected but some results may turn different in a natural environment; • replication of the devices developed by the project in other countries significantly depends on the existence of proper regulations (e.g. on waste management, seafaring, marinas, etc.); • available data/information on existing marine litter technologies is very limited, making hard, if not impossible, to compare existing technologies (for example, their cost-effectiveness); • the project should be promoted at industrial level to maximize its impact. This implies a proper policy/ regulatory framework able to involve relevant stakeholders for synergies and collaboration, and attract private investors during and after the duration of the project.
Lesson learnt/ recommendations:	• 80% of the plastic found in the ocean come from land-based sources and the remaining 20% is the result of water-related activities. In the Mediterranean, marine litter mainly arises because of coastal activities (whereas the Northern Sea suffers most from marine activities); • standardized reporting and accounting formats for "best available marine litter technologies" are needed along the line of Best Available Techniques; • a holistic approach (e.g. microbeads, ban of single-use plastic, etc.) is needed to better coordinate stakeholders' actions (plastic producers and users) whose implementation should be ensured by the EU countries and Regional Authorities at national and local level; • international organizations and initiatives should further support cooperation between EU and non-EU Countries on developing and aligning their R&I strategies.

Sources of information:

Website: http://www.claim-h2020project.eu/;

Flyer, poster, press releases: http://www.claim-h2020project.eu/media-pack/;

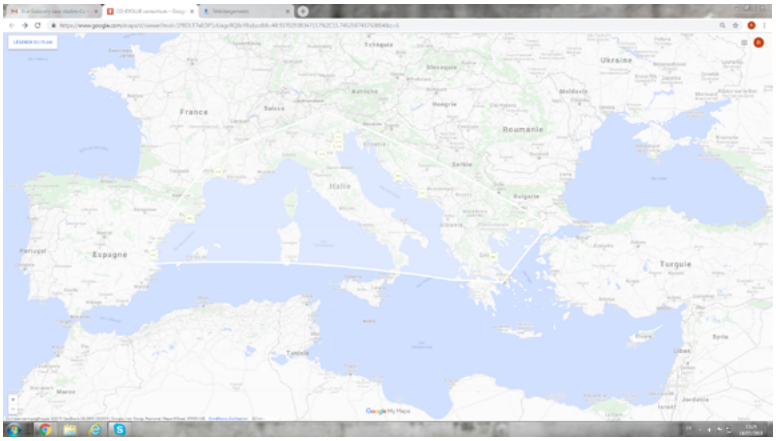
Technologies: http://www.claim-h2020project.eu/technologies/;

Work packages: http://www.claim-h2020project.eu/work-packages/

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27. CO-EVOLVE



Blue Economy sector:	MULTI SECTORIAL - climate change and morphological stability; coastal protection measures; tourist fluxes and carrying capacity; pollution and other anthropogenic pressures to ecosystems; ecosystem protection; littoralization and urbanization; conflicts among different uses on land and at sea and land-sea interaction; water supply and depuration; transport and accessibility.
Objective(s) of the project:	CO-EVOLVE aims at analyzing and promoting the co-evolution of human activities and natural systems in touristic coastal areas, facing effects due to climate change and allowing sustainable development of touristic activities, in coexistence and synergy with other uses of the coastal and marine space and resources, based on the principles of ICZM/MSP. CO-EVOLVE's main objectives: **1. Analysing threats and enabling factors for sustainable tourism in the Mediterranean** — Project activities will produce a complete and integrated analysis, at Mediterranean and Pilot Area scale, of the principal threats and enabling factors for a sustainable and ecosystem-based coastal tourism development, allowing a positive co-evolution of human activities and natural systems. **2. Defining and quantifying tourism sustainability in the Mediterranean** — Project activities will develop a sustainability analysis in order to quali-quantify the sustainability of tourism on pilot areas and address their strategic planning. The activity will build on previous efforts in order to create a conceptual model for assessing the level of sustainable development of tourism in the Mediterranean and develop an operational Tourism Sustainability Toolkit to be applied at Mediterranean scale. **3. Developing ICZM/MSP based action plans for sustainable tourism development in pilot areas and transfer at Med scale** — CO-EVOLVE aims to produce tourism-driven or tourism-oriented strategic action plans on the basis of the previous outputs and elaborate strategic planning proposals for each pilot area, including operative guidelines. A transferability plan at Mediterranean scale will also be produced.
Project promoters:	Region of East Macedonia and Thrace - EL

Project Partners:	i)Conference of Peripheral Maritime Regions of Europe – FR; University of Thessaly – EL; ii)Emilia-Romagna Region – IT; Priority Actions Program Regional Activity Centre – HR; iii) Port Institute Foundation of Studies and Cooperation of Valencia - ES; iv) Po Delta Park Veneto Region - IT; v) Dubrovnik Neretva Regional Development Agency - HR; vi) Department of Herault - FR; vi) Public Institution for Coordination and Development of Split Dalmatia County - HR; vii) Iuav University of Venice - IT; viii) National Research Council - Institute of Marine Sciences - IT
Geographical area(s) of implementation:	Alexandroupoli/ Makri area & Thassos/Keramoti area – EL; Catolica (RN) port and coast area & Comacchio-Lido di Spina (FE- Po Delta park) – IT; Polesine Camerini & Rosolina Mare – IT; La Albufera – ES; Maguelone/Frontgnan area & West Heraultcoast – FR; Kastela Bay – HR; Neretva Delta - HR
Target beneficiaries:	**Sectoral Agencies:** for local/regional development, Environment, Employment, Spatial Planning & Infrastructures, Civil Protection, Transport & Communication, Water Directorates, Managing regional and national parks and protected areas, Managing cultural heritage; **Interest Groups including NGOs:** Economic sectors, NGO's and citizens will be involved in different moments and places of activities, through direct contacts and interviews, socials, workshops, conferences and events: for data collection and review; tools testing; recommendations; plans and pilots; **Local Public authorities:** Municipalities of the coastal proximity in the countries of the project partnership as well as at EU Mediterranean scale in general; **National Public authorities:** Ministries of Environment & Planning, Tourism, Development in the countries of the Partners and at EU Mediterranean scale. The Union of the Mediterranean, the BLUEMED Initiative, and the UNEP PAP/RAC National Focal Points for the ICZM Protocol Barcelona Convention; **Regional Public authorities:** Regional authorities for policy development/implementation of action plans in the countries of the Partners and at EU Mediterranean level, CPMR-IMC members (41 Med Regions) and the Bologna Charter Initiative members (25 Mediterranean Regions); **SMEs:** SMEs, tourism related companies, will be involved in the implementation of several pilot actions. The economic sectors they belong to, will benefit after the project from project outcomes and action plans.
Duration:	3 years (on-going): November 2016-October 2019
Overall budget:	3.000.000 EUR
Summary of the project/initiative:	CO-EVOLVE aims at analyzing and promoting the co-evolution of human activities and natural systems in touristic coastal areas, facing effects due to climate change and allowing sustainable development of touristic activities, in coexistence and synergy with other uses of the coastal and marine space and resources, based on the principles of ICZM/MSP. The present policy landscape (e.g. Directive 2014/89/EU, ICZM Protocol, COM (2014)86 final) pushes in this direction since sectoral approaches produce unsustainable results in the medium-long term. The project addresses crucial challenges for the sustainability of tourism (e.g. seasonality of demand, transport, minimizing resource use, community prosperity and quality of life, conserving and giving value to natural and cultural heritage) and proposes specific action plans in representative pilot areas. In particular, the project addresses: i) high cultural and environmental resources threatened by human activities; ii) high pressure of tourism activities and urbanization; iii) increased pressure on natural resources due to the combination of human activities and environmental changes (especially climate change); iv) increased pressure on water resources.
Results achieved:	CO-EVOLVE's activities started with the Studying phase (WP3). Partners first worked on analyzing principal threats and enabling factors for the development of sustainable coastal tourism at Mediterranean scale and pilot areas scale. Pre-identified threats include climate change, morphological stability, littoralisation, urbanization, pollution, conflicts of use, etc. and main enabling factors are coastal and ecosystems protection, water cycle and depuration, transport and accessibility, legislation and governance. WP3 also included the preparation of a study called "Building a common approach in tourism sustainability evaluation" which aims at defining and quantifying tourism sustainability in the Mediterranean.

	This study includes a "Synthetic Tourism Destination Typology" form that will be filled by project partners with the results of their Threat/Enabling Factor analyses. In addition to this, the 'Tourism Sustainability Toolkit' was produced and applied in the pilot areas. Until now, a lot has also been done in terms of communication and enhancing CO-EVOLVE's visibility. The consortium also established strong interactions with the 'Sustainable Tourism' thematic community and monitors several Euro-Mediterranean initiatives and strategies of interest. It is also to note that CO-EVOLVE signed a Memorandum of Understanding with the Interreg MED MITOMED+ project to exchange knowledge and plan joint activities. Partners are currently finalizing the testing phase (WP4), which consists in translating in practice the findings of WP3 in order to implement Pilot Actions (plans, concrete actions and measures), setting the conditions for a sustainable tourism in coastal areas and related maritime space and promoting robust and transparent decision-making processes in the project's 7 pilot areas. After this, the project's transferring phase (WP5) will be launched and include the elaboration of a transferability plan at Mediterranean level. Preliminary actions for the construction of the transferability plan are currently being carried out. .
Strengths:	• local participation to identify needs and exploit data of previous projects; • indirect socio-economic benefits such as climate change adaptation, local investments and preservation of cultural/historic heritage; • the project elaborates on the concept of co-evolution, introducing an explicit analysis of future scenarios coupling natural (i.e. climate change) and anthropogenic change; • integration of all the aspects of sustainable innovation (economic, environmental, social) in planning processes establishing an innovative and common approach to the definition and evaluation of tourism sustainability (Tourism Sustainability Toolkit) and facilitating networking which helps the integration of sustainability into innovative planning processes; • Co-Evolve exploits data from previous projects and capitalizes more than ten years of experiences in interregional cooperation; • the project develops agreed approaches, tools and best practices from partners of different Mediterranean countries triggering a multiplier effect at territory and transnational level on project outcomes and solutions; • existing transferability plans at different scales (local and regional) raises project's scalability.
Challenges:	• lack of data in some cases may raise uncertainty in "needs" selection while comparable data for the Pilot Areas are scarce and pilot areas samples are small; • restricted practical applications (only few small-scale investments); • the time scale of the project cannot adequately address spatial planning issues (e.g. touristic fluxes, conflicts among different uses, etc.); • some aspects of coastal pollution are not considered (e.g. discharges of ship fuel & agricultural farming effluents) in sustainable planning process; • lack of motivation and engagement of local stakeholders in a few cases, and final coastal users are not included in the procedure; • participants only from EU with a common legislative framework; • Lack of a study for the identification of possible barriers and limitations for the replicability and scalability of the project.

Lesson learnt/ recommendations:	The project is still under implementation. Its most crucial phase (WP4: testing phase) is not completed yet, so the lessons learnt are delimited in a theoretical perspective: • climate change and morphological stability are recognized as important threats to sustainable tourism across all Mediterranean areas; • some work and strategy on coastal protection have been developed at local level; • Several of the Co-EVOLVE project areas have embraced their "protection status" to promote ecotourism as a shift from more traditional forms of "sun and sea" tourism; • Most local management plans ignore important aspects of sustainable tourism, while their level of implementation can vary greatly from one area to another;

Sources of information:

Website, project's application form, project's progress reports, project meetings' minutes

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28. ECONCRETE – BLUE IS THE NEW GREEN



Blue Economy sector:	MULTI SECTORAL PROJECT - maritime transport and port activities, tourism and recreation, biological resource. Project case study includes a public marina; it is also implemented in several EU ports and can be implemented in offshore wind/aquaculture operations.
Objective(s) of the project:	Accelerated coastal development is an integral part of the Mediterranean Sea. With rising population density along the shorelines, and constant increase in maritime and recreational activities, coastal hardening is inevitable. The result is constant destruction or depletion of natural coastal and marine habitats, being replaced by artificial structures that does not provide suitable conditions for the development of rich and diverse biological assemblages. The project described here aims to demonstrate the potential of implementing environmentally sensitive solutions based on ecological engineering principles, for enhancing the ecological value and biological productivity of coastal and marine infrastructure, while also increasing their structural integrity and resilience. This is achieved through application of ECOncrete® technologies, that use bio-enhancing concrete admix, rough concrete surface textures, and complex 3D designs of concrete elements. The three components work in synergy to enhance the growth of rich and diverse marine flora and fauna on the concrete infrastructure. This growth, apart from its clear ecological advantages, also increases the stability and longevity of the structure. The Specific objectives include: i) demonstrate the effectiveness of ECOncrete's bio-enhancing concrete technologies on ecological and biological performance in one of the largest marinas in the Eastern Mediterranean; ii) assess long term performance of a comprehensive enhancement scheme within the marina comprising: ecological seawalls, enhanced anchoring system, ecological armor alternatives (1-4 in the above project map, respectively).
Project promoters:	ECOncrete Tech Ltd
Project partners:	ECOncrete Tech Ltd; Herzliya Municipal Tourism Development Corporation Ltd.
Geographical area(s) of implementation:	Herzliya Marina, Herzliya, Israel.
Target beneficiaries:	Herzliya Marina Management, Visitors to the Marina, Local Fishermen, Local Ecosystem.

Duration:	On-going
Overall budget:	< 100K Euro (self-funded)
Summary of the project/initiative:	With nearly 60% of the human population concentrated around the coastlines, alongside growing threats from sea level rise and increased storminess, accelerated coastal development is inevitable. As most marine flora and fauna reside in coastal areas, anthropogenic changes to coastlines are a key reason for loss of coastal habitats, and associated ecosystem services. While coastal infrastructure such as seawalls, breakwaters or marinas add a significant amount of hard substrate available for colonization by marine organisms, they do not support similar species assemblages to those of natural habitats. This is mainly due to design features related to steep slopes, low structural complexity, and high homogeneity, all of which are rarely found in natural habitats. As a result, artificial structures are often dominated by nuisance and invasive species that prevent from local species to thrive. In response to this, ECOncrete Tech LtD has developed a series of concrete mixes and science-based designs which provide suitable biological and environmental conditions for the development of rich and diverse floral and faunal communities, while providing structural function and complying with all standards for marine construction. ECOncrete's solutions are innovative, scientifically based, load bearing and environmentally friendly, designed and manufactured with increased surface complexity and ecologically enhanced concrete composition, to encourage the development of a rich and diverse marine ecosystem as an integral part of urban and coastal marine infrastructure. The case study presented here provides an example for seascape architecture of coastal structures using ECOncrete's solutions. The products were deployed in Marina Herzliya, one of the largest and most modern marinas in the Eastern Mediterranean Sea, located in the most densely populated coastal region in Israel, with over 3.6 million people. The marina enhancement scheme included the deployment of four ecologically enhanced concrete product types: Eco Seawalls, Eco Armor Blocks, Tidepool Armors and Enhanced Anchoring System. Installation took place in 2 stages and was followed by comprehensive monitoring of the ecological enhancement efforts. Stage 1 included the installation of Eco Seawall made of ecological concrete with high surface complexity; and Tidepool Armor made of ecological concrete with surface complexity and water retaining capabilities. The Eco Seawall was installed between the "Mean Higher High Water" (MHHW) and the subtidal zone on an existing concrete seawall and was aimed at both intertidal and subtidal enhancement. The Tidepool Armor unit was installed in the intertidal zone on the outer face of the marina's main breakwater and was aimed at intertidal enhancement. Stage 2 included the installation of 6 Eco Armor Blocks and 3 Enhanced Anchoring Systems made of ecological concrete with high surface complexity. Both products were aimed at subtidal enhancement and included ecological enhancement treatments for oysters and fish. Stage 1 of the project included a detailed monitoring scheme that began roughly a month post installation and was repeated every 3 months for the first two years, then reduced to every 6 months. Each monitoring event included in-situ visual survey for mobile invertebrates, detailed fish census (pelagic and cryptic) as well as quadrate sampling for sessile invertebrate community. Monitoring for Stage 2 included periodic photographic monitoring.  Figure 1. Eco Seawall, before installation (left); and after 12 months (right).



Figure 2. Eco Armor Block, minutes after installation (left); and after 24 months (right).



Figure 3. Tidepool Armor, minutes after installation (left); and after 12 months (right).

ECOncrete is part of the SwitchMed initiative that supports and connects stakeholders to scale-up social and eco innovations in the Mediterranean.

Results achieved:

Results from the Eco Sewall installation were published in a peer-reviewed journal. These demonstrated the effectiveness of applying ecological considerations for biological and ecological enhancement of active infrastructure. All community parameters examined (live cover, richness, biodiversity) were significantly higher on the Eco Sewall compared to the existing marina seawall soon after deployment:

- 23 species were identified on the Eco Sewall, and only 11 on the existing marina wall
- Biodiversity has doubled on the Eco Sewall, as soon as 12 months after installation

The sessile community developed on the Eco Seawall included oysters, barnacles, sponges and other organisms that deposit calcium carbonate ($CaCO_3$) skeletons. These are known as habitat forming species and ecosystem engineers, contributing to the creation, modification and maintenance of habitats. Such species, apart from their ecological benefits to the environment also provide coastal and marine infrastructure with valuable structural benefits. Calcitic biogenic buildup was shown to provide structural reinforcement, reduced sensitivity to chloride penetration, enhanced resistance to erosion, scouring and abrasion, reduced maintenance, and prolonged lifespan in a process often referred to as Bioprotection [10]. In addition, mobile invertebrates (shrimps and other crabs) and resident fish species were significantly enhanced through design aspects (holes and crevices) of the Eco Seawall.

Apart from the Eco Seawall, all other ECOncrete products are frequently monitored and results show significant ecological enhancement of both sessile and motile communities, especially those that secrete calcium carbonate. The utilization of carbon in the bioprotection process, leads to CO_2 assimilation and contributes to the reduction of carbon footprint. This case study found that the inorganic biomass (calcium carbonate skeletons) have accumulated with an annual assimilation rate of 300gr Carbon for every square meter of ECOncrete infrastructure. This high carbon assimilation rates, alongside the unique properties of the ecological admix, which integrates various by-products and recycled materials (thus reducing the amount of Portland cement used in the concrete mix), results in ecologically enhanced concrete products that have as much as 80% less carbon footprint compared to standard Portland cement based concrete elements.

Strengths:	• the project contributed to labeling the Herzliya Marina as a Blue Flag Marina; • it offers on-site mitigation for environmental impacts of marine/coastal developments, enhances juvenile fish through eco-engineering helping increase fishing stocks locally, facilitate climate change mitigation (lower carbon footprint) and adaptation (stronger more adaptive "blue" infrastructure; • it enhances life below water and increase biodiversity (SDG14), contributes to climate change mitigation through offset of carbon footprint, and adaptation through resilient living infrastructure and bio-protection (SDG 13), creates sustainable cities and coastlines (SDG 11), integrate reused materials and byproducts (SDG 12); potentially reduces maintenance of the structure over its life span, reduce dominance of invasive species; • education opportunities for both facility operators and users, clear opportunity to engage youth – like local Sea scouts and local schools, and potential for fishing opportunities; • promotion of innovative design, including biomimicry of natural coastal habitats, into a highly traditional field; • applicable to different structures and different sectors, from ports to marinas, to offshore energy and aquaculture, urban waterfronts and more; applicable for both new construction and retrofitting aging infrastructure.
Challenges:	• paucity of long-term impact, new technology and relatively new field; • no incentives for implementation of eco-engineered solution, thus it depends on cost effectiveness or external funding (e.g. EU); • lack of awareness of biological enhancement and eco-engineering among relevant decision makers and stakeholders; • in certain infrastructures, like intake systems, rich marine life might create interference with operational systems; • even environmentally sensitive structures have a certain ecological footprint and no development of building with nature alternatives must always be preferred; • difficulty to coordinate uses and space; • application will depend on local regulations and criteria that might change from country to country.
Lesson learnt/ recommendations:	• bring life to coastal and marine infrastructure is a feasible, scalable and effective means for reducing the ecological footprint of coastal infrastructure even in a heavily urbanized setting; • the roughness and complex surface features of ECOncrete products create a variety of habitats and environmental conditions which are usually absent from standard concrete features. Based on the results of this case study, these alterations have increased the richness, abundance, and diversity of benthic assemblages, and supported higher variety of mobile species. This was achieved within the operational limitations of the marina (no extreme extrusions that might interfere with docking activities or compromise the integrity of ship hulls), and while complying with strict structural requirements of coastal infrastructure such as compression forces, cracking, and chloride penetration resistance; • the project demonstrates the potential of applying principles of ecological engineering in active urban/ working waterfronts without compromising day to day activities and services provided by the structure. Harnessing biological processes can increase both ecological and structural performance. Evidence of the benefits of biogenic buildup and bio-protection (longer life span, reduced maintenance) are clear but still call for more detailed and long-term investigation to gain more insight on financial implications; • as many countries are adopting strategies of "Blue Growth" aimed at supporting sustainable management of marine resources in the maritime sectors, the incorporation of environmentally sensitive technologies to active ports and marinas always requires deep investigation.

Sources of information:
www.econcretetech.com

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29. iBLUE - INVESTING IN SUSTAINABLE BLUE GROWTH AND COMPETITIVENESS

Blue Economy sector:	MULTI-SECTORIAL - yachting sector including shipbuilding, nautical services, tourism.
Objective(s) of the project:	The main objective of iBLUE project is to improve the competitiveness of the yachting sector in the Mediterranean by i) promoting an integrated and transnational network; ii) developing and applying a "business model innovation" based on the 3 pillars of sustainability (economic, social and environmental); iii) strengthen the knowledge about the sector.
Project promoters:	University of Udine -Department Polytechnic of Engineering and Architecture
Project partners:	STEP RI Science and Technology Park of the University of Rijeka Ltd; Groupe Kedge Business School; Official Chamber of Commerce, Industry and Shipping of Seville; Cyprus Chamber of Commerce and Industry; Lasithi Chamber of Commerce; University of Primorska -Faculty of Management; RCDI-Development and Innovation Network; Durres Chamber of Commerce and Industry.
Geographical area(s) of implementation:	Mediterranean areas in Italy, Spain, Greece, Croatia, Portugal, Albania, Slovenia, Cyprus, and France..
Target beneficiaries:	Yachting SMEs (shipbuilding, nautical services and maritime tourism); business support organizations; members of the consortium and external stakeholders; higher education and research entities; policy makers; general public.
Duration:	on-going; from 2017 to 2020 (36 months)
Overall budget:	2.252.855 EUR
Summary of the project:	iBLUE will contribute to the sustainable development of the yachting sector in the Mediterranean (shipbuilding, nautical services, tourism) through the establishment of a transnational network and an innovative 3 pillars business model (3-PBM), which integrate the three pillars of sustainability (environmental, social, economic). As a matter of fact, when addressing the crisis of the sector, and its unemployment challenges, focusing only on the economic aspects would represent a threat for the Mediterranean. The application of the 3-PBM, along with the systematic data collection, will provide stakeholders with: i) substantial knowledge of the Mediterranean yachting sector when it comes to economic impact, employment potential, challenges and sustainability; ii) a system of indicators assessing the sustainability of yachting enterprises, useful for better resource allocation and impact evaluation; iii) a collection of best practices and innovative patterns to improve the performance of the sector; iv) training material to facilitate the implementation of business models based on circular economy principles.
Results achieved:	Intermediate milestones of the on-going project: i) database of best practices of yachting SMEs; ii) development of a 3-PBM methodology for a Business Model Innovation (BMI) in the yachting sector, and guidelines for its application; iii) development of a system of sustainability indicators; iv) refinement of the 3-PBM methodology after technical feedback.

Strengths:	• promote the competitiveness of the yachting sector through the reformulation of business models based on the 3 pillars of sustainability and through the creation of a yachting cluster in the Mediterranean area; • propose an integrated solution to enhance employment, productivity and social cohesion in the yachting sector based on a closed linkage between thematic priorities and regional policies; • concrete cooperation between business and research, which stimulates investments in innovation and cross-fertilization of insights across boundaries; • a set of indicators which provides an integrated overview of the yachting sector and enhance its sustainability; • the methodology applied in the project could be applied to other business activities.
Challenges:	• a transnational approach is needed because of the coastal boundaries shared by the project partners; • a delicate balance must be found between economic development, ecological sustainability and social needs; • environmentally friendly technologies are scarcely adopted in the yachting sector, affecting the implementation process of the business model innovation according to the 3-PBM; • lack of organized and standardized data/statistics of the sector as well as absence of common regulations among the countries of the project prevent the effective application of the business model innovation; • the variety of all stakeholders in the yachting supply chain implies a great effort for managing a multi-stakeholder approach; • the sector complexity - in terms of business variety within the yachting supply chain - affects the transferability of the results into all yachting related activities. Nonetheless, the methodology provides ad-hoc indicators and tools for the main groups (e.g. manufacture, services, infrastructures, etc.).
Lesson learnt/ recommendations:	• need for a transnational approach; • integrate sustainability concepts to business models and provide regulatory support to innovation; • need for homogeneous regulatory frameworks at European, and Mediterranean, level; • lack of standardized and organized data; • readiness to manage complexity when dealing with various stakeholders;

Sources of information:

The project website contains public deliverables and informative materials: https://iblue.interreg-med.eu/

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30. MARINA PLAN PLUS



Blue Economy sector:	MULTI SECTORAL – maritime transport, coastal protection, maritime and coastal tourism
Objective(s) of the project:	The overall objective of MARINAPLAN PLUS is to apply at industrial scale an innovative and reliable technology able to ensure navigability and access to ports throughout the year. The technology avoids the usual collection of littoral materials nearby the entrance of harbors thanks to the installation of submerged and static pressurized-water systems, called "ejectors". They aspire the mixture of water and sediments which is then channeled to an area where does not constitute an obstacle to navigation. In line with the Marine Strategy Framework Directive, MARINAPLAN PLUS aims to develop an economically viable and environmentally friendly management plan for seabed maintenance that minimizes, or no longer includes, dredging as main technology for sediments removal.
Project promoters:	EASME (Executive Agency for SMEs) European Commission
Project partners:	Trevi Spa, University of Bologna, Cervia Municipality, ICOMIA
Geographical area(s) of implementation:	Cervia (RA), Italy
Target beneficiaries:	Citizens, the harbor different activities (shipyard, marina, fishermen, etc.)
Duration:	on-going (October 2016-December 2019)
Overall budget:	2.519.245 EUR
Summary of the project:	The specific objectives of the project are the following: i) the sustainable management of sediments in coastal areas and ports through a technology which avoids the damages and reduces the physical disturbances (underwater noise in particular) produced by dredging operations; ii) design a management plan for the maintenance of the seabed able to guarantee navigability with near-zero impact on marine environment; iii) contribute to the implementation of the Marine Strategy Framework Directive (2008/56/EC), the Maritime Spatial Planning Directive (2014/89/EC) and the EUSAIR macro strategy; iv) contribute to the general EU policy framework for water set out in the EU Water Framework Directive (2000/60/EC), Roadmap for a Resource-Efficient Europe (COM 571-2001) and Innovation in the Blue Economy (COM 254-2014).

	It is well known that dredging generates big impacts on biological resources. These impacts can be short or long term, direct or indirect. Short term impacts could include local changes in species abundance or community diversity during or immediately after dredging. Long-term impacts could include permanent changes in species abundance or community diversity caused by changes in the hydrodynamics or sediments type, or a decline or erratic trend beyond the normal range of variability in the years following the dredging. Direct impacts would be directly attributable to the dredging activity, such as loss of mudflat habitat or temporary turbidity which impacts the productivity of the eelgrass bed immediately adjacent to a dredging site. Indirect effects on organisms are not immediately measurable because of dredging operations. The disposal of dredged material on the seabed can also disrupt sediment-dwelling animals, with potential knock-on effects further up the food chain. The expected results of the project are: i) design an industrial-scale plant for seabed maintenance, to be developed in modular form so to favor high technology replicability; ii) realization of a demo industrial-scale plant for seabed maintenance in Cervia Port (Italy); iii) economic assessment of the industrial-scale plant for seabed maintenance by monitoring its electric energy consumption. Project objective is to reduce seabed maintenance costs of about 55% yearly thanks to the minimization or no longer use of the dredging equipment; iv) highly replicable and sustainable management plan to be developed on the basis of the demo plant performance, thus containing information about authorization roadmap, management costs, ordinary and extraordinary maintenance costs, and environmental impacts; v) minimization or no longer use of the dredging equipment for seabed maintenance, with relevant benefits in term of environmental impact. The demo plant will be monitored to verify plant impact on marine flora and fauna (sea floor integrity assessment), including also undersea noise measurements. Also CO2 emissions will be estimated on the basis of electric energy consumption: a reduction of about 3.5 ton/year has been estimated; vi) boats access to the port guaranteed throughout the year: the objective is to maintain seafloor depth in the port inlet to the appropriate level of 2.50/3.00 through industrial scale plant for seabed maintenance; vii) promotion of a more sustainable development of economic activities in marine environment, ports in particular.
Results achieved:	i) based on the experimental results run in 2017, the industrial scale plant for seabed maintenance has been designed, built and assembled in Cervia Port (Italy); ii) networking activities have been giving good results. In fact, Trevi Spa has supplied a small plant in Cattolica (Italy) within another European co-funded project called CO-EVOLVE; iii) the Bologna University is running another project called ECOMEDPORT, in which the dissemination and the replicability evaluation of the technology in Mediterranean countries is pursued; iv) Puglia Region (South Italy) is interested in applying the technology in the small port of Rodi Garganico.
Strengths:	• the project enhances navigation safety and infrastructures which suffer of silting; • climate change mitigation by avoiding maintenance dredging and using renewable energy resources (solar and wind energy) for the plant; • conservation of local habitats, and coastal erosion reduction. • jobs creation for the management of the plant and local investments mobilized; • regional and local authorities are directly involved in the project (e.g. local municipality and Bologna University are involved in monitoring different parameters); • the performance of other experimental plants based on this technology is monitored, and commercial/scientific partnerships have been established to facilitate their replicability.
Challenges:	• the project pays the first industrial application of this innovative technology; • the coast dynamics must be well known to apply the technology efficiently; • energetic independence (via solar or wind energy) must be pursued; • no on-line database of the monitoring results is expected to be produced; • a business plan aimed to attract private investors should be produced.

Lesson learnt/ recommendations:	• the project allowed learning a lot about materials durability and special design features; • innovative technology needs to be well communicated to win resistances.

Sources of information:

www.lifemarinaplanplus.eu

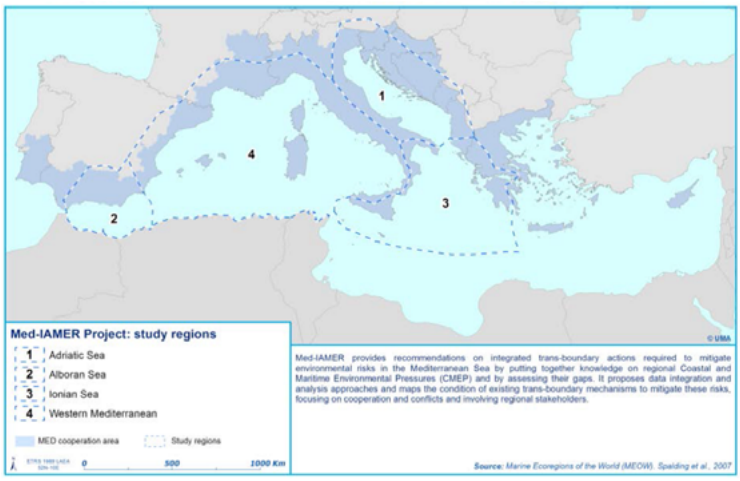
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31. MED-IAMER INTEGRATED ACTIONS TO MITIGATE ENVIRONMENTAL RISKS IN THE MEDITERRANEAN SEA

Med-IAMER



Blue Economy sector:	MULTI-SECTORIAL - fishery, aquaculture, oil and gas exploitation, coastal and maritime tourism, maritime transport, coastal urbanization, tourism, nature protection, offshore renewable energy production
Objective(s) of the project:	i) develop a transboundary knowledge base on the main socio-economic drivers and the major Coastal and Maritime Environmental Pressures (CMEPs) in the Mediterranean region; ii) categorize regional knowledge gaps through stakeholders' evaluation mechanisms; iii) map and understand the relevant legal and policy framework applied in the Mediterranean; iv) recommend specific actions and essential regional engagements to reduce the impact of major pressures in the Mediterranean region.
Project promoters:	Joint Technical Secretariat of the MED Programme, European Environment Agency, EU Joint Research Centre (JRC), European Topic Centre of the University of Malaga (ETC-UMA), Plan Bleu, University of Thessaly, Territorial Observatory for Mediterranean Competitiveness (OTREMED) of the Region of Murcia, Strategic Partnership for the Mediterranean Sea Large Marine Ecosystem (Med-Partnership) UNEP/MAP, FAO, International Hydrological Programme, SCP/RAC.
Project partners:	European Topic Centre at University of Malaga, ETC-UMA (Lead partner); Agency for Sustainable Mediterranean Cities and Territories, AVITEM; Plan Bleu of UNEP/MAP; University of Thessaly.
Geographical area(s) of implementation:	Adriatic Sea, Alboran Sea, Ionian Sea and Western Mediterranean
Target beneficiaries:	A wide audience as project's recommendations, outcomes and indicators are publicly accessible.
Duration:	One year (completed in May 2015)
Overall budget:	353.653 EUR

Summary of the project:	Until recently the Mediterranean has lacked region-wide environmental monitoring mechanisms that are effective and adequately implemented. It is crucial to use up-to-date and consistent data to assess the trends of socio-economic activities and their impacts on the environment, and harmonized environmental information is crucial for supporting stakeholders and legislators for evidence-based decision making and planning. The Ecosystem Approach (EcAp), as introduced and adopted in the Mediterranean region, aims at improving the effective protection of the environment and ensuring the continued provision of marine goods and services for human well-being. Med-IAMER was the first maritime project within the MED Programme to implement an ecosystem-based approach at transboundary scale. The aim of the project was to make recommendations for the 2014-2020 MED programming period in terms of transnational integrated actions to mitigate environmental risks in the region: The project produced methodological tools to structure abundant but not readily accessible spatial information, highlighted data gaps, identified the most vulnerable hotspots and their associated environmental pressures linking them to regional cooperation instruments. The project involved all stakeholders to validate its results and used its peer-reviewed results as a science-policy interface to influence regional management and policy making. At conceptual level, the project provided an integrated framework for monitoring coastal and marine ecosystems in the Mediterranean region using the widely adopted DPSIR approach (Drivers-Pressures-States-Impacts-Responses). The major socio-economic drivers, pressures and impacts were first identified and quantified using a variety of sources and then validated by a wide range of regional stakeholders. At knowledge level, Med-IAMER generated a series of regional spatial indicators to assess the major socio-economic drivers, the main environmental pressures, and the potential aggregated impacts on coastal and marine ecosystems in the Mediterranean. At policy level, Med-IAMER produced: i) a robust harmonized information baseline on the state of the environment and its main stressors, based on the qualitative descriptors of the Marine Strategy Framework Directive (MSFD) for determining Good Environmental Status (GES) and on the efficiency of protection measures available at the transboundary level; ii) recommendations for better environmental management thanks to evidences provided by the project and literature review, and on the consensus expressed by the stakeholders during the consultations organized by the project; iii) a framework for mapping regional policies pursuing the achievement of GES based on three specific criteria: policies' integration, sustainability and effectiveness.
Results achieved:	After a complex phase of data collection, validation and integration, Med-IAMER identified a wide number of indicators used to display spatial information about socio-economic drivers and environmental pressures in the Mediterranean region. A broad series of regional spatial indicators was produced, including 52 indicators on major socio-economic drivers, 10 indicators on major environmental pressures, and 1 composite indicator on potential cumulative impacts on coastal and marine ecosystems in the Mediterranean. All spatial indicators were used to produce maps for the whole Mediterranean basin, with a special focus on the Western Mediterranean area and on the Adriatic-Ionian Area. The mapping of indicators of drivers and pressures for the Mediterranean basin included: climate change, fisheries, aquaculture, marine litter, oil and gas, coastal and maritime tourism, maritime transport and coastal urbanization. Other maps displayed the distribution of marine protected areas, existing legal frameworks, fishing trends, blue energy resources and supply, and an additional map showed the cumulative pressure indicator, combining the effect of the six major socio-economic and environmental drivers of pressures. Factsheets were also developed to produce a synthetic document for each ecoregion and driver, as support for discussion during the process of stakeholder consultation. A detailed list of recommendations is included in the Med-IAMER final report. They are structured in four tables dealing with: (i) Data and mapping/monitoring; (ii) Assessment methodologies; (iii) Pressures on marine biodiversity; and (iv) Marine protected areas and Management and transboundary cooperation. Each table consists of three columns, the last one subdivided into two. The first indicates the audience to whom the recommendations are addressed; the second contains the recommendation in detail and the third gives the justification for the recommendations. Two sources of justification are provided: one is the literature review and the other consists of stakeholders' points of view expressed during the consultations organized throughout the project.

Strengths:	• the project filled a knowledge gap by: i) providing a regional knowledge baseline on the state of the environment and its main stressors; ii) developing regionally harmonized qualitative descriptors of the Marine Strategy Framework Directive for determining Good Environmental Status(GES); iii) establishing an approach to assess the cumulative impacts that supports Member States in assessing their Maritime Spatial Plans; iv) assessing the efficiency of protection measures available at the transboundary level in the Mediterranean; • high usability of project outcomes and indicators by regional stakeholders and policy makers supporting evidence-based decisions and prioritization measures related to climate change threats and impacts, and the conservation status of biodiversity and natural resources; • mapping regional policies for achieving Good Environmental Status; • application of innovative technologies to spatially locate major environmental pressures (e.g. Geographic Information Systems and modeling techniques); • the project produced, validated and made available data, statistics, and maps the can be capitalized; it applied an open data policy and used the EU INSPIRE Directive to make metadata and data widely accessible and coherent with international standards; • categorization of gaps, conflicts and cooperation opportunities when it comes to the planning and management of Mediterranean coastal and marine areas in the context of transboundary cooperation mechanisms;
Challenges:	• strong need to re-assess the trends in pressures using the baseline analysis; • current financial instruments should prioritize trends' assessments using similar methods; • although such baseline was made available, environmental degradation is still occurring in the Mediterranean as decisions are still being taken based on sectoral interests.
Lesson learnt/ recommendations:	• maritime transport is a significant environmental threat to the Mediterranean both for the kind of impacts and its increasing socio-economic importance. If coastal infrastructure can be effectively regulated through horizontal policies and measures (e.g. Environmental Impact Assessments), the transport of goods seems difficult to control. In this respect, the need to evaluate the existing policies regulating maritime transport activities should be emphasized. Fisheries, tourism (especially cruising) and oil and gas (particularly during exploration activities) are also serious transboundary threats in environmental and socio-economic terms; • address the environmental and socio-economic threats of the Mediterranean, policy improvements and additional regulatory and voluntary measures and incentives (e.g. eco- labelling for sustainable fisheries and transport) are needed at regional and national level together with the effective implementation and streamlining of the existing regulations.

Sources of information:

http://www.medmaritimeprojects.eu/section/med-iamer

https://www.msp-platform.eu/projects/med-iamer-integrated-actions-mitigate-environmental-risksmediterranean-sea

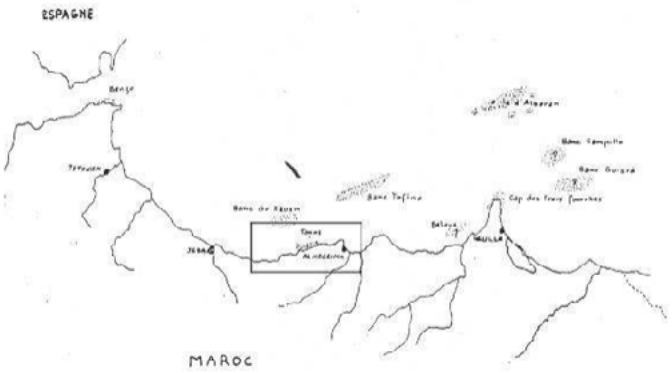
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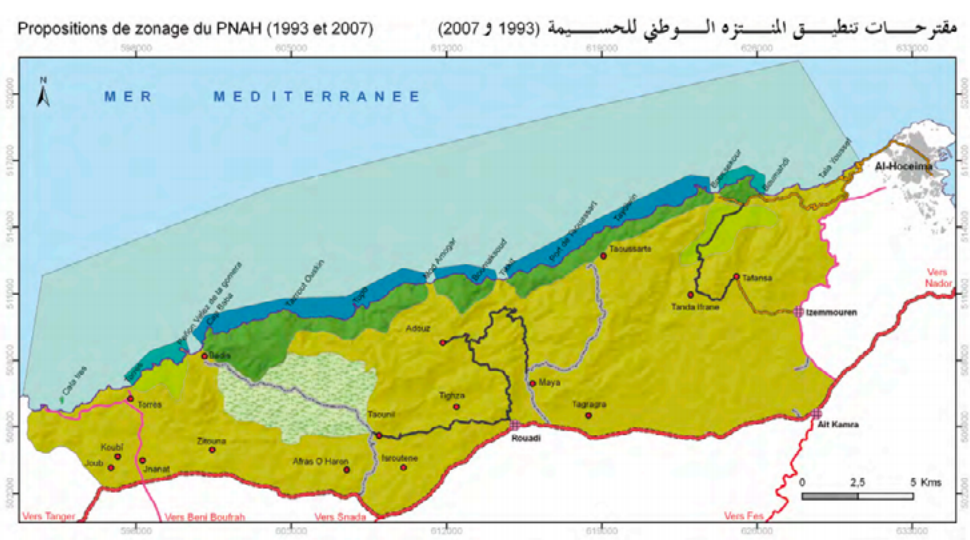
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32. MARINE PROTECTED AREA OF AL HOCEIMA NATIONAL PARK



Blue Economy sector:	MULTI-SECTORIAL
Objective(s) of the project:	The objectives of the project are: i) improve the knowledge about species and habitats affected by unsustainable fishing practices; ii) sensitization of fishermen and other relevant target groups; iii) capacity building of relevant actors (NGOs, fishermen's organizations, administrations) for the implementation of sustainable fishing practices; iv) implement demonstration projects on sustainable fishing practices.
Project promoters:	MAVA Foundation, SGP, M2P Trust Fund, European Union
Project partners:	Institut National de Recherche Halieutique, Haut-Commissariat aux Eaux et Forêts et à la Lutte Contre la Désertification, Universities in Morocco, Odyssea project partners .
Geographical area(s) of implementation:	

Target beneficiaries:	Fishermen communities, women' cooperatives, universities students, institutions, other users
Duration:	on-going (2017-2021)
Overall budget:	450.000 EUR
Summary of the project:	The South Alboran Sea is characterized by the northern facade of the eastern, central and western Rif, 500 km long, which includes very high steep cliffs and underwater subsoil once sheltered, thanks to its ramparts, is one of the few in the Mediterranean. Unfortunately, this area has become the least protected area in Morocco over the past ten years, despite the fact that two spots were declared protected. The area is heavily impacted by the devastating effects of illegal trawling in shallow areas all over the Moroccan Mediterranean coast, an activity that destroys both the demersal stock and the biotope itself. In addition, a significant number of direct and critical threats to biodiversity target species have been identified as a matter of urgency, such as a new form of driftnet fishing (Tonailles) that target large pelagic species (particularly swordfish and bluefin tuna) and can irreversibly destroy commercial and non-commercial marine resources; they are considered IUU and can cause significant incidental catches of marine mammals. Further efforts must be made in the management and restoration of populations of threatened species with the involvement of fishermen together with administrative and scientific officials. Positioning itself as a prerequisite for the actions needed to reduce the threats, the project aims to promote the management and sustainable use of natural resources. The project teamwork in parallel with the factors that cause these direct threats, mainly low enforcement of existing laws, by involving fishermen in the co-management of the Parc National d'Al Hoceima (ZMPNAH) and improving their incomes through better commercial management of fishery products without increasing their fishing effort. The project is part of the SwitchMed initiative that supports and connects stakeholders to scale-up social and eco innovations in the Mediterranean.
Results achieved:	i) the protection of threatened species has been promoted through the improvement of knowledge; ii) targeted research and monitoring, and involvement of local fishermen community in the management and restoration of biotopes has contributed to restoring threatened species; iii) the impact of driftnets on cetaceans in the South Alboran Sea has been reduced by at least 70% through the elimination of IUU fishing, the conversion of the longline fleet, and the changing policies in relation to IUU fishing; iv) monitoring and follow-up of trawlers has promoted ecosystems restoration by at least 30% (more precise measurement will be done by the new marine Observatory leaded by AGIR); v) monitoring of illegal dynamite fishing and of the use of copper sulphate, has contributed to the restoration of underwater landscapes by at least 30%; vi) the planting of 900 ha of artificial reefs in shallow areas has contributed to reducing trawling in these areas, restoring the biotope as well as the commercial and non-commercial species; vii) strengthening the artisanal fishing community through vigilance actions in the ZMPNAH has contributed to the elimination of the trawling within the marine zoning; viii) campaigns organized against juvenile fishing among consumers in northern Morocco contributed to a 30% reduction in juveniles bycatch in the Alboran Sea; ix) improving the management of protected areas, ensuring their financial viability through participatory planning, and supporting a sustainable marketing strategy for the fishery products has increased artisanal fishers income of around 30% in the areas targeted by the project; x) the administrative and commercial management of fish products has improved their prices (+30%); xi) the administrative management of artisanal fishermen's cooperatives is improved (now part of the Caisse Nationale de Solidarité Sociale); xii) strengthening the capacities of civil society organizations and local institutions through exchanges and networking (13 artisanal fishermen's cooperatives networked with 3 Southern and Northern Mediterranean countries).
Strengths:	• considering the diverse needs of the project's beneficiaries, the project built the capacity of more than 3000 fishermen throughout the Mediterranean (ranging from the literacy of fishermen, improving the administrative management of cooperatives or elaborating action plans for the co-management of marine resources);

	• the creation of a rotating fund to ensure the sale of fishing gear produced by fishermen's wives increased the incomes of 300 fishermen and their family and created new jobs for dozens of women; • the creation of a women fishermen's cooperative that manufactures fishing gear has promoted a local economy which strengthens women's presence in fishing ports, usually «closed" for women; • a comprehensive management vision against the obsolete, fragmented and project-based vision of MAPs; • opportunity for AGIR to work with the Haut Commissariat aux Eaux et Forêts et à la Lutte Contre la Désertification and jointly apply an environmental management process that helps have common goals in relation to the targets chosen in the marine coastal ecosystem, and develop indicators that ensure the sustainability of such targets, based on their size, conditions and/or geographical context; • working on threats reduction through a prioritization process - based on the ranking of threats according to their scope, severity and irreversibility - which may have a positive impact on the restoration of certain emblematic species (e.g. the osprey population), commercial stocks or non-marketable biomass;
Challenges:	• the MPA within the National Park of Al Hoceima has become the place for practicing illegal fishing techniques (e.g. blast fishing, copper sulphate fishing, underwater fishing and illegal trawling), which have exceeded the threshold of tolerance;
Lesson learnt/ recommendations:	• extend the duration of the M2P Trust Fund 2nd phase beyond the 5 years and consider a possible reduction of pilot sites in order to get best results through the reduction of logistical obstacles and without risking geographical dispersion; • reflect over the possibility of achieving uniform results for all the sites, using international standards, and taking in consideration the work carried out, and the methodologies adopted, locally (e.g. the Open Standards for the Nature Conservation leaded by AGIR in Morocco). • reinforce and extend the role of AGIR in monitoring since even small variations in the results observed in the different sites might provide key lessons to be used in other sites; • reflect over the relevance and contents of collaborative management agreements, with a view to using them as tools for promoting common understanding of key principles of spatial planning between institutional and sectoral partners. This could facilitate multi-stakeholders and inter-sectoral actions on land management with significant impacts on the populations concerned or in the conservation and management of biodiversity; • encouraging the participatory approach led by AGIR to complete the mapping/diagnosis of biodiversity use practices. This could help re-frame current eco-development initiatives or capitalize traditional practices related to biodiversity conservation; • support projects on gender issues to better integrate women, particularly in eco-development since productive options exist within the sustainable use of natural resources (e.g. crafts, medicinal plants and ecotourism practices); • engage national education partners to strengthen the visibility of the project's results; • strengthen cross-sectoral/community collaboration for mobilizing investments towards the project;

Sources of information:

http://agir-env.org
https://www.sgp.undp.org/component/k2/item/download/1735_fed82a20653485f8800040c7c8734f54.html
https://panorama.solutions/sites/default/files/BlueSolution_39_AGIR_Nibani_Houssine_Morocco_SustainableManagementMarineResources.pdf
https://panorama.solutions/sites/default/files/guide-de-bonnes-pratiques-_amp.pdf

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33. NETWORKING FOR THE DEVELOPMENT OF MARITIME TOURISM AT EUSAIR LEVEL – NEMO



Blue Economy sector:	MULTI-SECTORAL PROJECT - fisheries, tourism, integrated coastal management, income diversification
Objective(s) of the project:	Despite its huge socio-economic and environmental potential, and its raising consensus, the fishing-tourism sector in the Mediterranean as a whole, and in the Adriatic-Ionian area, is still in its infancy. This mainly due to lack of common rules, integrated approach between the fisheries and tourism sectors, adequate operators' skills and a unique selling proposition. NEMO aimed to unlock its full potential and meet the socio-economic and environmental sustainability requirements. Its specific objectives are: i) identify a common methodology for data collection/elaboration at EUSAIR level as part of the Mediterranean area; ii) support the Community-led local development (CLLD) for setting up of Fisheries Local Action Groups (FLAGs) as partnerships between fisheries actors and other local private/public stakeholders; iii) identify general principles and specific measures in the FLAGs' strategies to promote, develop and support local and regional projects and initiatives dealing with tourism and fisheries; iv) develop a common framework for the coordination and networking of fishing-tourism initiatives at EUSAIR level; v) enhance dialogue and cooperation between different sectors in order to find common and shared solutions; vi) develop sound economic proposals and outline more effective regulatory framework for fishing tourism initiatives.
Project promoters:	Marche Region
Project partners:	Bologna University- Dep. Marina Biology and Fisheries Laboratory (Italy); Mediterranean Agronomic Institute of Bari (Italy); Split- Dalmatia County, Institute of Oceanography and Fisheries (Croatia); European Regional Framework for Co-operation (Greece).
Geographical area(s) of implementation:	Mediterranean with a focus on the Adriatic-Ionian sub-region (EUSAIR)
Target beneficiaries:	i) National/regional/local authorities and policy-makers in charge of fisheries and tourism governance; ii) EUSAIR Strategy national and transnational key implementers; iii) Sectoral and Development Agencies; iv) Research Institutes and Academia; v) Fisheries operators; vi) Tourism Operators; vii) Business association; viii) End users of sea resources.
Duration:	12 months/completed in 2015

Overall budget:	410.281 EUR
Summary of the project:	The Mediterranean Sea basin is the world's leading destination in terms of international and domestic tourism. Mediterranean coastal areas are very mature tourist destinations accounting for one third of total arrivals worldwide. However, despite its socio-economic potential, coastal and maritime tourism industry face huge socio-economic and environmental challenges that threaten the important contribution of this strategic sector to the economic growth of the Mediterranean coastal communities. In this context, fisheries related tourism represents an opportunity to diversify fishermen incomes, improve local livelihoods, stop the declining of profitability and employment in the fisheries sector, promote and valorize fishermen profession and the associated socio-cultural heritage. On the other hand, fisheries related tourism can contribute to enhance the sustainable use of marine ecosystems while reducing fishing efforts. Despite its huge socio-economic and environmental potential, the "fishing-tourism" in the Adriatic-Ionian area, is still in its infancy. To unlock the full potential of this sector and meet the socio-economic and environmental sustainability requirements, policies and technical gaps/obstacles hindering its sustainable development should be identified in order to propose a common strategic/operational action as contribution to the EUSAIR strategy implementation. The aim of NEMO project, co-financed under the MED Programme 2007-2013, was to propose concrete orientations (e.g. action plans, recommendations and guidelines) for future projects and initiatives in order to consolidate the Mediterranean as a dynamic socio-economic area. Institutional and operational partners from Italy, Croatia and Greece worked together to assess the state-of-play and future development paths of fishing-tourism in the Adriatic-Ionian macro region, contributing to the MED overall integrated maritime policy and acting as catalyst for coastal development while protecting environment and biodiversity.
Results achieved:	Thanks to a transnational methodology of data collection, elaboration and benchmarking at institutional, socio-economic and environmental level, NEMO delivered a SWOT analysis, a Roadmap, and a Strategic Action Plan for the development of fisheries related tourism in the Adriatic-Ionian region proposing technical and political hints for future cooperation projects and an integrated marine/maritime approach as key factor for the cohesion of the Mediterranean basin. NEMO results were capitalized and extended through follow-up projects within the Interreg MED 2014-2020 Programme and Interreg V B ADRION.
Strengths:	• strong stakeholders' consultations process to detect gaps/obstacles hindering the development of fishing-tourism and identify operational and strategic needs, actions and measures to be put in place; • the findings of the socio-economic analysis carried out within NEMO showed high potential for fishing-tourism as a driver for the development of coastal communities in terms of employment and an effective approach for the preservation of traditional, cultural, ecological and ethnological values. The following specific points emerged from the analysis: i) the role of women in the fishing-tourism could be crucial ranging from gastronomic related activities to the preparation of complementary food products and handicrafts; ii) youth are also potential beneficiaries of developing fishing-tourism destinations as they have better knowledge of foreign languages and youth preferred cultural activities; iii) elderly can also find their role in fishing-tourism either by attracting aged tourists or designing traditional hosting experiences for the visitors; • sustainability issues were addressed by i) targeting policymakers for an integrated governance of marine and maritime issues; ii) raising the profile of fishermen as keepers and stewards of maritime culture, tradition and heritage; iii) involving fishermen into environmental monitoring in close cooperation with research bodies; • a common transnational methodology to map the state-of-play of fishing-tourism and potential for its development in the Adriatic-Ionian coastal regions was carried out together with a SWOT analysis of the sector and the identification of the elements needed for developing a "Unique Selling Proposition" as a tool to increase the attractiveness of the Mediterranean sub-regions; • NEMO's approach is replicable as it tackled a topic of growing interest for its environmental and socio-economic implications. Moreover, the transnational methodology developed allows a wide use by those institutions and operational partners interested in developing an integrated approach to fishing-tourism.

Challenges:	• the duration of the project allowed the formulation of an Action Plan at regional and transnational level but did not allow implementing several measures. Partners capitalized on NEMO results by submitting a capitalization project proposal (first MED call 2014-2020) that was rejected since the geographical scope was too focused on the EUSAIR region; • the analysis and consultations run within project show the urgent need to simplify the regulatory framework; • the use of project results in regional plans for fisheries and tourism is often hindered by administrative complexity and highly fragmented competencies.
Lesson learnt/ recommendations:	• harmonize the methodologies used collecting and processing data and information on the fishing-tourism sector; • promote "peer learning" among institutions in charge of developing fisheries diversification policies; • transfer the FLAG's approach and identified best practices to non-EU countries; • promote the clustering of fishing-tourism community groups in order to increase visibility and strengthen impacts; • develop multi-actors and cross-sectorial projects in the framework of calls dealing with income diversification and sustainable resources exploitation; • design transnational pilot projects on fishing-tourism to set up a "Unique Selling Proposition" in the Adriatic-Ionian area; • reviewing the existing legislative framework at regional and national level with the aim to support the diversification of fishermen's income.

Sources of information:
NEMO webpage is currently unavailable, but the main source of information remains the MED Programme database.

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34. SAMMY - SMART APPLICATION FOR MANAGEMENT OF MARINAS AND YACHTS



Blue Economy sector:	MULTI-SECTORIAL - Coastal Tourism, Maritime Transport and Coastal Protection
Objective(s) of the project:	The existing lack of technological solutions in yachting marinas and particularly the absence of integrated booking management systems, the scarcity of real-time monitoring and the ellipse of guidance & notification tools, are among the greatest problems today for marina administrators and for the yachting community. These gaps are commonly broadened by yacht mooring in already booked spaces, by inappropriate moorings (side mooring, occupation of multiple spaces etc.), by unnecessary maneuvers of the yachts or even by unlawful littering within the marina environment. From yachts owner/user side, the fact of arriving to a fully booked marina, limited information about nearby Points of Interest (POIs), limited alert mechanisms for weather events or extreme conditions are some among the most common concerns. The main objectives of SaMMY project is to exploit the new technologies in order to: i) offer solutions for assisting marinas to manage their amenities and human capital in an optimal way; ii) attract more yachts and support the daily management of marinas; iii) simplify operational processes of yachting marinas; iii) protect marinas' environment and dynamically monitor the effects of tourists flows; iv) provide mobile assistance to the yachters and crew members; v) create sustainable jobs and internships.
Project promoters:	EU Organizations: European Commission (FIWARE Programme), FIWARE frontierCities Accelerator, H2020 Neptune Blue Growth Accelerator, H2020 SymbIOTe ecosystem, H2020 VICINITY ecosystem Greek Organizations: Achaia Chamber of Commerce, SRATEGIS Maritime ICT Cluster, Blue Growth Piraeus, Corallia gi-Cluster
Project partners:	OptionsNet (Greece)
Geographical area(s) of implementation:	Greece, Cyprus
Target beneficiaries:	Marinas and Tourist Ports, Yachters and Charter companies, Yacht Brokers, Marine related businesses
Duration:	Completed, on-going extensions through National and European R&D Initiatives (Regional RIS3, H2020)
Overall budget:	390.000 EUR

Summary of the project:	With over than 27,000 km of inland waterways and more than 70,000 km of coastline, Europe offers the perfect environment for the 48 million people who regularly participate in recreational marine activities (36 million boaters), as well as countless numbers of tourists. Over 6 million boats are kept in European waters while 4.500 marinas manage 1.75 million berths both in inland and coastal areas in Europe [Source: ICOMIA Statistics Book, 2010]. SaMMY combines different technologies and tools in an integrated system, especially designed for the adverse conditions of the maritime environment and intends to efficiently serve the marinas and yachters. It responds to the challenge of extending the use of existing commercial products/ services and smart sensor devices in the maritime domain and enhance their operation through innovative systems, creating this way new business opportunities (such as close cooperation with local market, provision of advanced trip scheduling services, providing marina-related open data to public authorities and businesses) in the growing yachting marina market. SaMMY platform is consisted of three complementary subsystems: i) An **application for mobile devices** (smartphones, tablets, integrated Yacht devices etc.) that aims to serve yachters, skippers and crew members. SaMMY app provides a simple environment for on-line berth booking, navigational and parking assistance services - during arrivals or departures - and instant communication with the preferred marinas. With SaMMY app a variety of high-level services are offered such as real-time information about the weather and sea conditions, notifications of extreme weather events or maritime incidents and full guidance to the nearby marina areas and points of interest; ii) A **System for the marina management (MMS)**. The platform allows the marinas to manage their contact details, the facilities, along with the berth positions and represent them on an interactive map. SaMMY also provides information about marinas' regulations, the pricing & cancelation policies and selected Points of Interest in the nearby areas. The marina administrators can easily use SaMMY for the daily management of the bookings, for handling weather alerts and for providing personalized notifications to the yachters. All the services are hosted on the "Cloud" and there is no extra need for investments in hardware or software for the marinas; iii) SaMMY's advanced technologies transform a regular Marina into a **'Smart' one (Smart Marina Concept)**. A multi-purpose sensor grid consisted of waterproof wireless sensors is enrolled in order to feed a central system and provide booking, meteorological & environmental information. These services are facilitated through the installation of different types of sensors (ultrasound, meteorological, water quality, wave measurement etc.) which collect data and monitor the conditions within the Marina in real-time. The IoT grid raw data are gathered by a gateway and stored initially into a local database. An independent IoT agent that has been developed for the backend data processing operations processes the raw data stored in the local database and then sends the processed data sets to the cloud. The data are pre-processed depending on the sensor type (water condition related data, weather condition related data, water level related data, berth availability space related data) and the final datasets are produced and offered online.
Results achieved:	The SaMMY platform has been developed and already tested in a maritime environment. The initial prototype has been successfully deployed in the Patras Port Authority (www.patrasport.gr), that hosts Mega-yachts between 20-50 meters long and the marina administration system has been demonstrated to the Patras Port Authority officers and used since 2016. Today the SaMMY platform (www.sammyacht.com) provides berth booking services to more than 30 marinas or tourist ports in Greece and Cyprus and it is used for the management of the marinas' operations by five marinas in Greece. As innovative platform, it has raised 390.000 euros from different European programmes (FP7, H2020 etc.) and it has currently contracted additional 150.000 euros from Regional Operational Programme of Western Greece (RIS3 Call) for further technical improvements and integration of IOT and knowledge management technologies. SaMMY has been distinguished as one of the top 80 High Potential Impact solutions of FIWARE programme, selected as one of the top 70 companies at Google Startup Grind 2017 (London), nominated for the Accenture Innovation awards 2017, selected to H2020-SymbIOTe and H2020-Vicinity programmes in 2018 and awarded with the European Commission's Seal of Excellence (SME Instrument Programme).

Strengths:	• fully in line with the EU strategic policy for the sustainable development of the coastal areas and Nautical tourism in Mediterranean sea basin and other coastal areas (Atlantic coast, Northern Europe, Black Sea basin etc.), SaMMY's technological platform supports the modernization of services in nautical tourism, contribute to the empowerment of the marinas and tourist port network in Europe and create a strong global branding for Mediterranean and possibly other areas as marine tourist destinations; • SaMMY tackles problems present in any yachting marina in the EU and globally; • the integration of SaMMY platform with an innovative IoT infrastructure which monitors in real time water quality, sea level and environmental conditions inside marinas or tourist ports is an effective mechanism for environmental protection and preservation; • in terms of innovation, SaMMY platform combines new-wave tech solutions like Cloud services, Big Data Analytics, IoT smart grids and FIWARE technologies; • SaMMY's architecture is open for future extensions and the middleware services are interoperable with other external systems and online platforms. The replicability and scale-up of the platform is high in terms of software systems and it is already scaled-up in Greece and Cyprus.
Challenges:	• the IoT systems need extra field studies for each of the areas in which they are planned to be deployed; • marinas and tourist ports need to unify their services and processes in the next year in order to arrive at a certain level of service provisioning.
Lesson learnt/ recommendations:	• the yachting sector, and specifically the marinas and tourist ports, are currently facing different challenges related to protection of coastal and marine environment, climate change, raising competitiveness inside the business sector and demand for new service by end-users. The technology can be the catalyst of offering effective solutions for being confronted with those challenges. During the deployment of services and the operation of a marina or tourist port with the assistance of technological tools it is essential to convince all levels of administration that digital transformation will help facilitate their daily work and bring benefits for both the workers of an organization and also for its clients; • there should be a step-by-step approach where technology is introduced along with the necessary training and change of the internal/external business processes, in order to provide successful and sustainable results; • make efforts for the convergence of internal processes and minimization of the paperwork between different marinas or tourist ports, in order to simplify the marina administration work and upgrade the quality of services for the yachters/sea travelers. A global marina network with clearly defined processes, respect of National and EU regulations, acceptable level of technological infrastructures and services, can leverage the creation of jobs and attract national or international investors; • for accelerating the scaling-up of SaMMY or similar initiatives is crucial the compliance of marinas and tourist ports with the existing legislations and EU regulatory framework (in particular, Directives 94/25/EC, as amended by Directive 2003/44/EC, which introduce requirements regarding user safety as well as exhaust and emissions rules). Additionally, these kind of technologies must be linked with recent standardization ISO13687 (Minimum Service Requirements for Basic Service Level harbours, Part1-3) and ISO21406 (Tourism and Relative Services – Yacht Harbours – Essential Requirements for Luxury harbours) which that provide a clear framework of how technologies can help marinas and yacht harbors provide basic and advanced services to their customers.

Sources of information:
www.sammyacht.com
http://www.libelium.com/smart-marina-monitoring-mooring-berths-by-controlling-sea-and-weather-conditions-in-a-touristic-port-in-greece/

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35. TURKEY'S ALIGNMENT WITH EU POLICIES IN THE FIELD OF BLUE GROWTH AND ECONOMY

Blue Economy sector:	MULTI-SECTORIAL (all sub-maritime sectors including shipping, port management, fishing and aquaculture, ship building and recycling).
Objective(s) of the project:	The overall objective of the project is to strengthen Turkey's alignment with EU policies in the field of Blue Growth and Economy by improving institutional and sectoral capacities in the marine and maritime sectors in Turkey and strengthening the policy dialogue with the EU.
Project promoters:	Ministry of Transport and Infrastructures (MoTI)
Project partners:	Relevant Ministries and NGO's
Geographical area(s) of implementation:	Turkey
Target beneficiaries:	maritime community
Duration:	as of 2017 (still ongoing)
Overall budget:	no specific budget. The budget of the DG Merchant Marine is used
Summary of the project:	Implementation of effective policies in maritime transport, faster procedures in ports, safer navigation, elimination of sub-standard ships and cleaner oceans and marine environment protection will enable the Ministry of Transport and Infrastructures (MoTI) to support the other sectors of the blue growth, such as fishery, aquaculture, coastal tourism and ocean energy. All these sub-sectors will also have multiplier effect in terms of increase in capability and capacity within the DG Merchant Marine. The project is expected to contribute building the capacity of the main responsible body for blue growth, the DGMM, and increasing the awareness of all relevant stakeholders concerning the capacity of blue economy to create jobs in Turkey. The activities envisaged in this project will directly contribute to smooth, safe and economical maritime transport processes increasing the capacity of MoTI.
Results achieved:	i) increased administrative capacity of the DGMM as regards the development and implementation of a Strategy and Action Plan on Blue Economy for Turkey for the Period of 2023-2035; ii) awareness and synergy raised among stakeholders on blue economy; iii) human capacity development for job creation.
Challenges:	• turnover rate of trained staff is unacceptably high; • insufficient commitment of relevant stakeholders for guaranteeing the sustainability of the implementation; • insufficient conditions for practical implementations of blue economy related activities; • changes in the policy and insufficient commitment at the highest political level; • low interest for cooperation is exhibited by stakeholders;
Lessons learnt/ recommendations:	• a consistent policy shall be maintained, and strong commitment is demonstrated at the highest political level to maintain a stable level of dialogue. • the sustainability of the staff already trained and trainings for incoming new staff shall be ensured. • good cooperation by all stakeholders involved in the planning, implementation and monitoring of the blue growth shall be achieved for effective implementation, • beneficiaries of support must be in possession of enough capacity to design and implement their projects in a timely, regular and effective manner.

Sources of information:

Official Gazette of the Republic of Turkey; EU Annual Progress Report; Reports of Paris Memorandum of Understanding on Port State Control; Data from Marine Pollution Information System DGMM's Strategy Plan; Maritime Sector Analyses

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36. FORESTRY AND COASTAL MANAGEMENT



Blue Economy sector:	Multi-sectoral project: Forestry and Coastal management.
Objective(s) of the project:	The project supported an investment programme for the restoration and rehabilitation of coastal areas, forest firefighting and forest rehabilitation activities between 2013 and 2016.
Project promoters:	Ministry of Agriculture, Fisheries, Food and Environment (MAFFE), Spain
Project partners:	N/A
Geographical area(s) of implementation:	Spanish coastal areas from 25 Provinces within 10 Autonomous Regions
Target beneficiaries:	Public and private entities from rural/coastal areas and less developed regions
Duration:	2013-2016. The project has been completed.
Overall budget:	EUR 270 million
Summary of the project:	The project supported an investment programme of MAFFE between 2013 and 2016 for rehabilitation of coastal areas, post-fire forest rehabilitation and erosion control. The total investment cost was about EUR 270 million and the EIB's contribution was EUR 120 million. The project included approximately 110 coastal protection and restoration projects located in all Spanish coastal regions. It also supported the rehabilitation of over 100,000 ha of forests damaged by severe fires. The coastal protection and restoration projects focused on erosion control and protection of the littoral, seafront infrastructure developments and eco-system protection. The aim was to remediate existing damage and mitigate the risks of future impacts. The contribution to coastal management included, inter alia: small-scale infrastructure to re-establish and/or reinforce beach and shorelines structures for preventing longshore erosion (particularly adjacent to river mouths); protection of sensitive dune structures; habitat regeneration; improved public infrastructure to minimise user impacts (controlled and protected access corridors); and improved risk mapping.

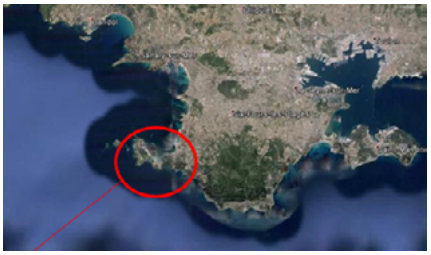
Results achieved:	The financing for the coastal management component helped rehabilitate degraded coastal areas and protect the coastline from damage related to waves and flooding. Over 2,000 kilometres of the coastline have been improved, and over 50 hectares of degraded coastal areas have been rehabilitated. Over 200 hectares of exposed beaches will be better protected against rising sea levels and storms, as a result of this project's investments. About 10 km of enabling itineraries and coastal trails have been developed, and over 125,000 m2 of urban sea facades have been rehabilitated.
Strengths:	•the project delivered multiple environmental benefits and contributed to EU environmental policy objectives in the fields of climate change, biodiversity protection, resource efficiency and sustainable use of natural resources. It generated also economic benefits in rural areas, by contributing to creation of employment in less developed regions and reduction of migration of rural population. The project also supported the sustainability of the tourism industry activity. For both coastal and forest rehabilitation works, priority was given to local people, creating an important source of low-skilled seasonal employment for young people in rural areas. Much of the investment programme has been implemented with relatively small, local contractors, providing employment in rural areas and less developed regions.
Challenges:	• the project was signed during the global financial crisis which heavily impacted both the Spanish government and the regional governments. The EIB loan had a crucial role in securing the necessary co-financing for supporting the Spanish Government's programme of investments in rehabilitation of coastal areas and post-fire damaged forests.
Lessons learnt/ recommendations:	• N/A

Sources of information:

https://www.eib.org/en/press/all/2014-057-eur-120-million-for-environmental-investment-in-spain.htm

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37. SAR-LAB SITE ATELIER RESTAURATION ECOLOGIQUE LAGUNE DU BRUSC





Blue Economy sector:	MULTI SECTORIAL PROJECT - fisheries, ecological functions, R&D
Objective(s) of the project:	restoration of ecological functions in Mediterranean port area, lagoon area, salt marshes and continuation of R&D
Project promoters:	Institut océanographique Paul Ricard
Project partners:	Ecocean, Semantic TS
Geographical area(s) of implementation:	Mediterranean (Var France)
Target beneficiaries:	professional fishermen, environmental managers
Duration:	5 years (on going)
Overall budget:	1.286.000 EUR
Summary of the project:	The organization of the project and the different actions concern: i) the integration of port area to improve their ecological nursery functions; ii) artificial facilities to increase and to compensate for the lack of natural habitat; iii) ecological restoration actions of seagrass using magnoliophyte transplantation techniques; iv) the restoration of ecological functions on a degraded site (salt marshes); v) monitoring, research and knowledge acquisition through innovative techniques (R&D).
Results achieved:	Phase 1 (2017-2018): artificial habitats installation in different sites (ports, lagoon), seagrass transplantation, monitoring of fish abundance and growing of transplants; Phase 2 (2019-2020): monitoring of fish abundance and growing of transplants; rehabilitation of ancient salt marshes. Expected results: offer tools to act favorably on the environment by innovative processes

Strengths:	•in terms of environmental effectiveness: restoration, valorization of ecosystem services (nurseries area); •innovative restoration method; •combine the functional aspects from an ecological point of view with awareness raising and landscaping issues; •strengthen the collaboration with professional fishermen, initiated in a previous program (characterization of a nursery area); •communication towards general public and local managers.
Challenges:	• too early to assess the impact in terms of ecological benefits; • involve port and environmental managers; • promote the involvement of professional fishermen.
Lessons learnt/ recommendations:	• replicate the same idea in another country, in accordance with local specificities (legislation, policy, etc.); • develop communication on ecological restoration with local actors (conferences, public meeting).

Sources of information:

Annual reports, website of Institute : www.institut-paul-ricard.org

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38. NEPTUNE

Neptune
Blue Growth Accelerator



Blue Economy sector:	Marine Renewable Energy/ Maritime Transport/ Ports and Logistics/ Marine environment/ Blue Biotechnologies/ Safety and security
Objective(s) of the project:	NEPTUNE aimed at developing new cross-sectoral and cross-border industrial value-chains to foster the development of Blue Growth industries in Europe and beyond. The focus was on the construction or reconfiguration of value chains driven by the integration of new technologies and know-how between Water, Aerospace, ICT and Agriculture industries. Based on this collaboration and SMEs innovation support, NETPUNE addressed three key aspects of the Blue Growth: (i) water management in urban and rural environments; (ii) fluvial and maritime transport and port logistics; (iii) environment and renewable marine energy. The project intended to achieve the following specific objectives: i) to enhance the development across Europe of new value chains in the Blue Growth industries through a systematic approach providing entrepreneurship and innovation support to individual and groups of SMEs in the three target areas; ii) to support the creation of fertile regional ecosystems (Smart Specialization Strategies) that provide the framework conditions for supporting and funding the collaboration actions between SMEs and between cluster partners; iii) to support the development of large-scale demonstrators for Blue Growth; iv) to foster the creation or the improvement of market ready technologies, products (goods and services) or the improvement of production processes with the reduction of raw material consumption; v) to offer SMEs the opportunity to extend their markets worldwide; vi) to deliver a methodology for facilitating the identification of market trends and project ideas emergence in an inter-cluster, cross-border and cross-sectoral collaboration driven context.
Project promoters:	European Commission (EASME) through H2020
Project partners:	Aerospace Valley, Pole Mer Mediterranee, Inno tsd, Estia, Agence de Developpement et d'Innovation Aquitaine Limousin Poitou Charentes (France), Fondazione Parco Tecnologico Padano (Italy), Agentia de Dezvoltare Regionala Nord-Ovest (Romania), IDEON (Sweden), EURECAT, MLC (Spain), Space PL (Poland)
Geographical area(s) of implementation:	the regions of the participating clusters
Target beneficiaries:	Innovative SMEs

Duration:	36 months (completed on December 2018)
Overall budget:	EUR 4.199.821
Summary of the project:	NEPTUNE was an innovation action project supported by the European Commission and its HORIZON 2020 programme. The challenge was to develop new cross-sectoral industrial value chains across the EU, by building upon the innovation potential of SMEs. NEPTUNE aimed to support cross-sectoral and cross-border impactful and innovative solutions and improve existing or under development technologies/ services/products/production processes able to replace or reduce the use of critical resources and deploy large-scale demonstrators. The project was built on the integration of innovative technologies and know-how from different domains, such as water management, aerospace, ICT, microelectronics, agri-food, logistics, creative industries, energy, and mobility to foster the development of Blue Growth industries in Europe in the following domains: i) NEPTUNE targets Blue Growth: a key emerging industry to be supported via inter cluster collaboration as well as a key driver for the EU economy. According to the European Commission, the Blue Growth represents roughly 5.4 million jobs and generates a gross added value of almost EUR 500 billion a year. The EU faces various challenges (e.g. food security, sustainable agriculture, marine and maritime and inland water management, etc.) and the Blue Growth innovative solutions can play an important role in addressing them and unlocking the potential of oceans and inland water for the benefit of European competitiveness; ii) Blue Growth Accelerator to support SMEs: the accelerator was dedicated to SMEs and would-be entrepreneurs offering an innovative and collaborative platform to facilitate partnerships and projects, open-spaces for remote collaboration, participation to international meetings and workshops. Two inter-clustering innovation clubs targeting different Blue Growth areas were also organised in each partner region by using connected meeting rooms that allowed participants to work simultaneously in a same virtual room. Two face-to-face brokerage and matchmaking events were then organised at European level to share and bring together SMEs, implement concrete cross-border partnerships and develop a better understanding of supply and demand challenges and solutions within key value chains. A toolkit for SMEs and would-be entrepreneurs was also elaborated to support them in their development together with a Coaching and Mentoring Services and a financial support of up to 60.000 € per selected SME; iii) Coaching and Mentoring Services (CMS) were operated by NEPTUNE's clusters partners, offering an accompaniment through 6 key stages of the SMEs development: Incubation, Business Model, Funding Opportunities, Technological Support, Intellectual Property Right, Internationalisation and Branding; iv) a voucher scheme was designed to support financially SMEs, alone or in consortium, 2 calls for interest were launched with a simplified application process to benefit from funding to afford paying external experts to deal with specific problematics (e.g. Incubation and Entrepreneurship, Intellectual Property Management, Overcoming Non-technical Barriers, Technology Development/Transfer and Scalability and Internationalisation) and cover internal expenses (of which staff cost) for prototypes and large-scale demonstrators..
Results achieved:	NEPTUNE's calls for interest has been a great success, with 200+ applications submitted by innovative European SMEs and would-be-entrepreneurs. Out of those applications, 41 innovative projects of which 15 Large-scale demonstrators were granted with a total of EUR 2.8 million. In total, 72 European SMEs and 3 would-be entrepreneurs have beneficiated directly from NEPTUNE Vouchers. Beneficiaries are from 6 European countries: France, Greece, Italy, Romania, Spain, and Sweden. Moreover, 100+ Coaching and Mentoring Services delivered.
Strengths:	•8 experienced clusters, with the support of key partners (e.g. local development agencies, consultancy firms and Engineering Schools from different but complementary domains) joined efforts in NEPTUNE to make this Blue Growth Accelerator successful; •the knowledge and know-how gained allowed the clusters to be more effective in terms of: i) mobilization capacity (over 200 applications received in two calls) and support to potential applicants; ii) integrating smoothly NEPTUNE' support into the overall SMEs development strategies; iii) proximity to the SMEs and capacity to solve doubts and answer questions; •clusters working together and promoting their own community have demonstrated capacity to create synergies across sectors and facilitate access to new markets.

Challenges:	• raise awareness of organizations not having experience and/or knowledge in Blue Growth and attract them to participate in the accelerator; • support the development of collaborative projects between European SMEs.
Lessons learnt/ recommendations:	• the NEPTUNE's cascade funding mechanism, consisting in distributing European public funding to SMEs through Vouchers in order to support their innovation development, was positively assessed by clusters and SMEs. It proved to be a, effective tool to support SMEs and start-ups, namely the typology of actors that encounter major difficulties to access these types of funding. .

Sources of information:

http://www.neptune-project.eu/

https://cordis.europa.eu/project/rcn/206901/factsheet/en

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39. BLUE SKILLS



Blue Economy sector:	MULTI-SECTORIAL
Objective(s) of the project:	To develop new curricula and contribute to increase employability in the marine and maritime sectors
Project promoters:	National Institute of Oceanography and Applied Geophysics (OGS)
Project partners:	Algerian National School of Marine Sciences and Coastal Management (Algeria); Libyan Authority of Natural Science Research and Technology (Libya); University of Malta (Malta); University of Nouakchott Al Aasriya (Mauritania); National Institute of Oceanography and Fisheries of Mauritania (Mauritania); Polytechnic University of Madrid (Spain); Higher Institute of Fisheries and Aquaculture of Bizerte (Tunisia); Euro-Mediterranean University of Fez (Morocco); Chouhaib Doukkali University (Morocco); Centre for Marine Sciences of the Algarve (Portugal); Aix Marseille University (France)
Geographical area(s) of implementation:	Mediterranean area
Target beneficiaries:	students, researchers, local administrator, policymakers
Duration:	five years (2018-2022)
Overall budget:	999,600 EUR
Summary of the project:	The project core activities aim to promote skills, knowledge and research in the field of the Blue Economy, leading to blue careers and oriented scientific research. By supporting the Euro-Mediterranean community of the blue economy stakeholders through the Union for the Mediterranean (UfM) Higher Education and Research Unit, the project will enhance the shared knowledge of marine sciences and maritime sectors in the Mediterranean basin. The planned actions focus on advanced training courses (summer schools, post-graduate university master's degree), circular mobility (research mobility, traineeship programme), and further regional capacity building actions (workshops, conferences and publications). In March 2019, the Senior Officials of the UfM granted the project the UfM label, which acknowledges its regional relevance in promoting blue employment.
Results achieved:	i) Summer School on Sustainable Blue Growth co-organized by the National Institute of Oceanography and Applied Geophysics (OGS, Italy) and the Euro-Mediterranean University (EMUNI, Slovenia): ***(5th Edition):*** 18-27 June 2018 Title: Summer School on Blue Growth in the Euro-Mediterranean Region 2018. Venue: Trieste (Italy) and Piran (Slovenia) Status: closed.

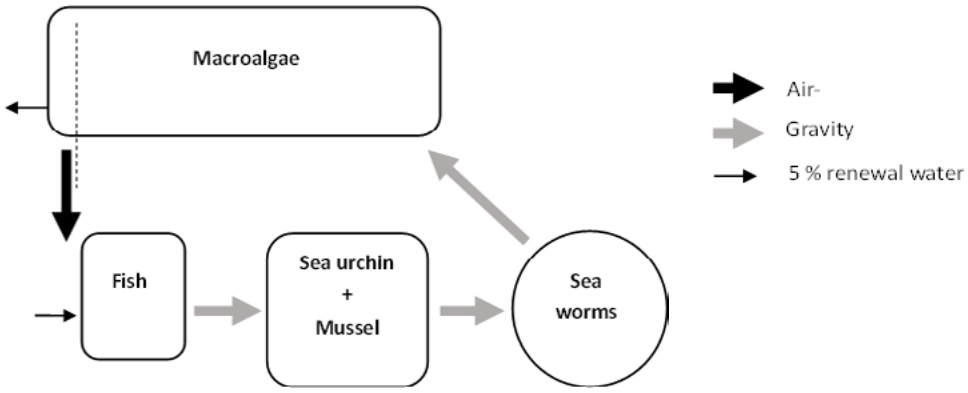
	(6th Edition): 17-21 June 2019 Title: Summer School: Sustainable Blue Economy in the Euro-Mediterranean Region Venue: Trieste (Italy) and Piran (Slovenia) Status: closed. ***(7th Edition)*** 15-26 June 2020 Title: Innovative Tools for a Sustainable Blue Economy in the Euro-Med Region (TBC) Venue: Trieste (Italy) - Piran (Slovenia) Status: forthcoming. ii) The Advanced Master on Sustainable Blue Growth established to bring scientific excellence and technological innovation at the focus of several Blue Growth initiatives. The Master is jointly organized by University of Trieste and OGS to support the creation of stable and attractive blue career pathways throughout strengthening professional skills and enhancing competencies in fields related to sustainable blue growth. This is a 2nd level international Master held in English and brings 60 ECTS delivered by the University of Trieste. ***(1st Edition)*** 2018 - closed ***(2nd Edition)*** 2019 - ongoing ***(3rd Edition)*** 2020 - forthcoming
Strengths:	• target the intersection between human and sustainable development so to impact three interlinked crucial areas: blue economy, higher education and research, and business and development; • support Pan-regional initiatives, but not only the BLUEMED Initiative and its enlargement process to non-EU Mediterranean Countries; • gather fragmented knowledge and multiple networks under a comprehensive training offer capable to meet long-term education needs or immediate up skilling while promoting circular mobility and effective knowledge exchange and transfer (pilot activities takes place in European and Non-European Mediterranean countries)
Challenges:	• when it comes to marine/maritime skills and professionals, existing graduate programmes and career developments are either highly specialized or diluted into other disciplines; • the participants, coming from several countries where marine and maritime regulations are different, are called to network and work together for work toward common strategies • build a common language to be used between the different expertise in order to enhance multi-disciplinar and multicultural team working.
Lessons learnt/ recommendations:	• the overall approach of the project is replicable in other Mediterranean countries with collaboration with the local stakeholders provided that prior pilot projects highlight good and bad practices as well as lessons learnt; • yearly work plans should be formulated both based on the lessons learnt from previous activities and on beneficiaries' feedback to improve continuously the quality of the offer; • yearly work plans must be adapted and reproduced against real and specific needs of the beneficiaries in order to position itself as a best practice of regional cooperation; • the project should serve as a regional launch pad to: i) build new thematic networks in synergy with the activities of the Union for the Mediterranean; ii) run jointly research activities; iii) mobilize financial opportunities; iv) consolidate partnerships on emerging Blue Growth issues. This will contribute to promote follow-up actions and spin-off activities at the end of the project.

Sources of information:
Website: http://bluegrowth.inogs.it/
Social network(s): https://www.facebook.com/SustainableBlueGrowth/?ref=br_rs (Facebook) and https://www.linkedin.com/school/advanced-master-in-sustainable-blue-growth/ (LinkedIn)

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40. INTEGRATED MULTI-TROPHIC AQUACULTURE

Blue Economy sector:	AQUACULTURE
Objective(s) of the project:	develop an innovative, sustainable and profitable aquaculture
Project promoters:	Oceanographic Institute Paul Ricard
Project partners:	N/A
Geographical area(s) of implementation:	French Mediterranean coast
Target beneficiaries:	French fish and permaculture farmers
Duration:	one year (on-going)
Overall budget:	low cost
Summary of the project:	With overexploitation of marine resources around the world, aquaculture will extend over the next years to feed the growing world human population. Yet aquaculture must develop innovative, sustainable and profitable way to face were own issues. Feeding source efficiency need to increase while waste released in environment need to decrease. In this context, Integrated Multi-Trophic Aquaculture (IMTA) offers solutions by raising several species from various trophic chain level in the same area. In IMTA, organic and inorganic wastes from "the feeding species" are used as nutrients sources by "the extractive species". This means energy and nutrients from feeding source are fully exploited by several species in IMTA and final wastes released in environment are collapsing. Thanks to this ecosystem approach in aquaculture, productivity is also increasing just as feeding source efficiency and "zero waste" aim. Extractive species **Aquaculture** Food/nutrient intake Feeding species Nutrient output Waste **Integrated multi-trophic aquaculture** Food/nutrient intake Feeding species Nutrient output Extractive species Increase productivity by extractive species production Decrease waste released in environment through their consumption by extractive species The Oceanographic Institute Paul Ricard developed an experimental low running costs and easy-care recirculating aquaculture from an IMTA system. This kind of innovative technology could operate both in developed countries in local circular economy context and in developing countries in self-sufficient and subsistence farming context.



An experimental IMTA was tested in a recirculating aquaculture system to drastically reduce water supply. European seabass (Dicentrarchus labrax) were raised with co-cultured sea urchin (Paracentrotus lividus), deteritivorous polychaete (Hediste diversicolor) used to feed on particulate matter, macroalgae (Ulva lactuca) used to uptake dissolved nutrients, gastropod (Phorcus turbinatus) used to cleaning tanks from fouling. A single system in composed by 4 tanks with an air-lift to recirculate water (in 3 hours) and 5% renewal water per day. Dissolved oxygen, pH, salinity, temperature and amount of sunshine were measured daily. Once a week, water samples were collected at the outlet pipe of each tank and analyzed for total suspended solids (TSS), biochemical oxygen demand (BOD5), phytoplankton estimation and ammonia, nitrite, nitrate and phosphate concentrations.

Results achieved:	The experimental recirculating multi-trophic aquaculture system allows to produce in one-month biomass of fish, sea urchin, polychaete , macro algae and gastropod (numerous of growing young juveniles) from dry commercial fish food. Dissolved nutrients were always at a low or undetectable value meaning the system was efficiently able to assimilate them. It was observed that Total Suspended Solids and phytoplankton were the measured parameters the hardest to manage by the system.
Strengths:	• major rethinking of aquaculture farms for a more efficient and responsible food production based on the ecosystem management approach; •improved outputs, lower costs, product diversification, risk reduction, and jobs creation in coastal and rural communities.
Challenges:	• enabling and flexible regulations; • implementation of demostration activities to consolidate the validity of the concept; • reduce waste while increasing productivity.
Lessons learnt/ recommendations:	• avoid the “mess of materia” by taking only valuable organisms (in food for the other compartments or for a sample); • work on the residence time of the water in each compartment; • work on the breeding of new species to offer a panel available to breeders (e.g. : “purple” or sea fig, purple sea urchin); • gastropods should be adding to fish tank for a better cleaning of fouling.

Sources of information:
www.institut-paul-ricard.org

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