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CONTENTS

Executive summary / Abstract.....	4
Scope.....	4
Introduction.....	5
Scope of the report.....	5
Trends, challenges, innovations and inputs for strategic planning of transition pathways.....	6
Trends identification.....	6
Trends - Cruise sector.....	6
Trends - Recreational boating and yachting.....	7
Trends - Yachting (boats >24 m):.....	7
Trends - Recreational boating (boats < 24 m).....	7
Recent disruptions in the trends – linked to the global COVID-19 crisis.....	7
Cruise sector.....	8
Recreational boating and yachting.....	8
Interpretation of trends.....	8
Cruising.....	9
Yachting.....	9
Recreational boating.....	10
Identification of challenges.....	10
Cruise sector.....	11
Recreational boating and yachting.....	12
What we may need to do?.....	13
Cruise sector.....	14
Recreational boating and yachting.....	14
What will we do? How?.....	14
Cruise sector.....	16
Recreational boating and yachting.....	16
Annex I – BlueBoatsMed Infographic.....	18
Annex II – BlueBoatsMed Results Matrix.....	19
<i>Identification of trends, 4 challenges and related innovations</i>	19
1. Innovations to tackle the challenge “Safeguarding ecosystems and biodiversity” 21	
2. Innovations to tackle the challenge “Ensuring acceptable air quality and limiting air pollution“.....	26
3. Innovations to tackle the challenge “Ensuring that boating and cruising do not adversely impact local socio-economic systems and that benefits are shared in an equitable way” and “Promoting a circular economy of boats and related equipment” 30	

EXECUTIVE SUMMARY / ABSTRACT

Cruise and recreational boating in the Mediterranean have experienced rapid changes over the last decade. The cruise industry has experienced a significant expansion with passenger traffic in major Mediterranean cruise ports increasing by more than 18% throughout 2008-2017 (MedCruise). The recreational boating sector is undergoing structural changes with a general slight downturn of new boat orders at the global level and at the same time doubling of global orders of megayachts (>60 m) between 2007 and 2014, of which approximately 50% sail in the Mediterranean (BoatInternational). Both sectors, while experiencing different development paths, are key tourism sectors, raising significant environmental and inclusion challenges. Further expansion and structural change can be expected in both sectors around the Mediterranean where opportunities for fostering a blue economy need to be seized.

The Start-Up Action BlueBoatsMed brought together a range of stakeholders with complementary expertise on the cruise and recreational boating sectors, involved in separate on-going initiatives, to analyse the prospects for the cruise and recreational boating sectors in the Mediterranean; agree on main environmental challenges linked to these sectors; for each challenge, present up to 3 promising innovations; and discuss the potential for further uptake of these innovations to accompany transitions.

The assumption behind any foresight exercise is that the future is still in the making and can be shaped rather than passively accepted. Based on the results of the BlueBoatsMed project, this report envisages the evolution of the cruise and recreational boating sectors; and presents sustainability options and how they could be implemented.

SCOPE

The deliverable provides useful information about trends and future developments of the cruising, yachting and recreational boating sectors in the Mediterranean relevant for several BLUEMED components:

1. MEDITERRANEAN SEA DYNAMICS, **Goal:** Understanding and forecasting the Mediterranean Sea dynamics ; **Action:** Perform scenarios of environmental change to provide insights into the impacts of alternative future socioeconomic development pathways, policy options and blue growth exploitation on biodiversity and nature's benefits
2. PROMOTING SUSTAINABLE TOURISM IN THE MEDITERRANEAN; **Goal:** Linking tourism and environment; **Action 1:** Define and assess environmental value, risk mitigation and conflicts of use by involving scientist, companies, regulators, and coastal communities; **Action 2:** Develop strategies and practices to improve the wellbeing of coastal communities and their economy, and ensure the preservation of their culture/identity; **Goal:** Developing smart technologies and dedicated services; **Action 1:** Develop smart technologies and dedicated services for sustainable tourism; tackle environmental protection and human wellbeing.

INTRODUCTION

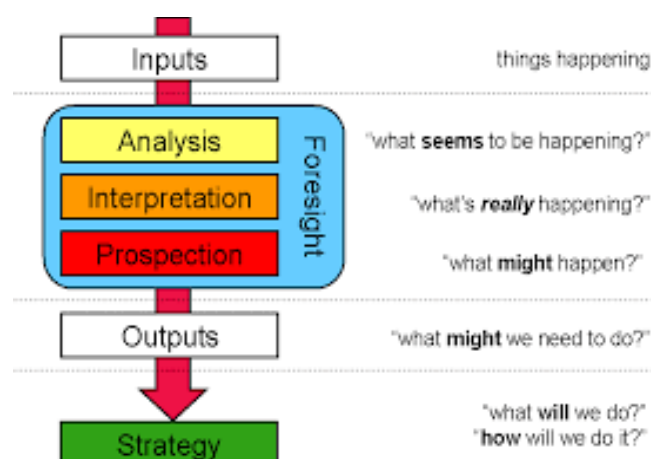
This report is based on the findings of the project BlueBoatsMed, a BLUEMED Initiative Start Up Action. The project brought together Mediterranean stakeholders with complementary expertise in the domain of cruise and recreational boating with the aim to: i) analyze the prospects for further and sustainable expansion of the two sectors; ii) agree upon main environmental or societal challenges associated to the expansion that the two sectors are expected to experience; iii) identify promising innovations to address such challenges, and the conditions necessary for their scaling up and uptake; iv) help outline guidelines for a Mediterranean transition to sustainable cruise and recreational boating.

A total of 25 experts went through these four steps at the occasion of four brainstorming meetings (webinar in April 2019, face-to-face meeting in Genova, Italy in June 2019; face-to-face meeting in Marseille, France in November 2019, webinar in October 2020). The results of the discussions are reflected in this foresight report, as well as in a scoping note for further activities and the attached results matrix.

Annex I shows the BlueBoatsMed infographic, that provides a visual overview of the BlueBoatsMed process.

SCOPE OF THE REPORT

The assumption behind any foresight exercise is that the future is still in the making and can be shaped rather than passively accepted, being aware that creative thinking does not replace planning methods. Based on the results of the BlueBoatsMed project, this report will i) envisage the evolution of the cruise and recreational boating sectors; ii) present sustainability options and how they could be implemented. To this end, the report will follow, often loosely, the foresight framework developed by Joseph Voros in 2001.¹



The Voros' framework is composed of well-defined and separate phases. The *Inputs* and *Analysis* phases focus on understanding the internal and external environment of a specific context, that we will refer to as “trends” in this report. The *Interpretation*

¹ Joseph Voros, A Generic Foresight Process Framework, 2003

phase is where we try to draw lessons from the past trends for the future. The *Prospection* phase outlines what might happen in the future and the challenges identified by BlueBoatsMed participants. The *Outputs* of foresight work can be tangible and intangible; tangible outputs include a range of options for action and are sketched out in this report through the promising innovations for transition spotted by BlueBoatsMed participants. The last step, *Strategy*, refers to the decision-making process and actions implementation. This last step is the one that has been least addressed within BlueBoatsMed, but the project provided some food for thought for further investigation on this subject.

TRENDS, CHALLENGES, INNOVATIONS AND INPUTS FOR STRATEGIC PLANNING OF TRANSITION PATHWAYS

Trends identification

Trends identification and analysis stems from the exchange of views and knowledge among the experts and/or organizations that attended the project's virtual and face-to-face meetings. The outcomes of these exchanges were sketched into the results matrix (refer to Annex II). The identified **trends** of the Mediterranean cruising and recreational boating sectors are the following:

Trends - Cruise sector

- Increase of the size of vessels as well as in the number of passengers and passenger movements: 8.6 million in 2000 vs. 28 in 2018 (Source: MedCruise, 2019) and size of vessels growing and expected to continue to grow, 5 ports with more than 3000 pax/call on average, 8 ports with more than 1 million passengers/year (Source: MedCruise, 2019)
- Increase of passenger travel in May-October (70% of passenger movements and 80% of calls), October being the busiest (Source: MedCruise, 2019)
- Growing off-season cruising in some ports
- Cruising is increasingly concentrated in the western Mediterranean (75%) (Source: MedCruise, 2019)
- Growing vulnerability to geopolitical/security/health issues. But as a mitigation strategy to some of these shocks, cruise ships have the advantage of being easily relocatable to other places in the world
- Growing discontent of the communities of cruise destinations due to the unbalanced distribution of the sector's revenues vis-à-vis investments and negative impacts
- Past trends show that the cruising market is driven by the offer: each time a new cruise ship enters the market, it is fully booked. Given long investment periods (~20 years) and long construction periods that are well recorded in international book orders, and the offer-driven nature of the sector, the quantitative development of the market is relatively easily projectable into the medium-term future. But this also comes with a certain inertia that must be considered when designing transitions.

Trends - Recreational boating and yachting

Trends - Yachting (boats >24 m):

- Increase in number of mega yachts (>34 meters): 5373 in 2018 in the world (just over 2000 in 1999, 4463 in 2012) (Source: Lorenzo Pollicardo)
- 70% of the world's mega yachts are sailing in the Med all year, with the phenomenon of seasonal transfer of mega yachts between the Mediterranean and the Caribbean having declined.
- Growing economic impact of mega yachts on ports (e.g. around 10% of the yacht's value/year for fuel, insurance, dockage fees, maintenance, crew, etc.)
- Book orders for superyachts full for the next 2-3 years (reference year 2020)
- Marinas especially in Western EU-Mediterranean countries are generally close to full occupation of their capacity. Greece and Turkey are about to follow the same trend.
- Yacht owners are much more international than recreational boat owners, many coming from Russia, Arabian Peninsula, Asia, relying on air travel to reach their yachts
- Growing significance of refit and repair industries as sub-sectors

Trends - Recreational boating (boats < 24 m)

- A market that is rather stagnating (only the segment of large catamarans continues to grow steadily)
- Owners are mainly locals with an increasing average age
- Increase in use of hybrid and electric propulsion systems
- Changes in the use of marinas and recreational boats driven by sharing economy platforms in the field of accommodation (e.g. Airbnb, floating tourist accommodation) and renting (e.g. Click'nBoats)
- Increase in number of associated services proposed to boaters
- Marinas are more and more orienting their business models towards integrated services and sustainability labels²
- Concentration of marinas and ports close to MPAs, increasing pressure on fragile ecosystems³
- Most recreational boats go out sailing only around 10 times/year
- Growing significance of refit and repair industries as sub-sectors

Recent disruptions in the trends – linked to the global COVID-19 crisis

Since early 2020, the global COVID-19 crisis is also affecting the cruising and recreational boating/yachting sectors worldwide and in the Mediterranean. The following elements have been identified:

² E.g. French marinas and the "Ports Propres" certification that aims to have all French Mediterranean marinas certified within the next four to five years. A second certification "port propre actif en biodiversité" also exists, with additional requirements on biodiversity.

³ http://www.ecounion.eu/wp-content/uploads/2020/07/Boating-Guidelines_3_7_20.pdf (p.6)

Cruise sector

- Tourism is the most affected sector by the COVID-19 crisis with an estimated decline between 60% and 80% (source: OECD). The most affected countries are those on both shores of the Mediterranean Sea, accounting for 1/3 of the income of international tourism (Source: UfM)
- The pandemic has forced most companies to suspend their operations. Shares of the biggest cruise line companies have collapsed up to 80% (Source: CNN).
- Most cruise ships are remaining at quay most of the time since the pandemic started. While pollution from cruising at Sea thus has almost completely been eliminated (such as marine litter, plastics, grey water, black water, bilge water, ballast water, SOX, NOX, CO2, collision with cetaceans), pollution levels generated at quay are largely unknown (ships potentially continuing to accommodate crew on board with linked waste and wastewater generation, engines potentially continuing to run, etc.)
- From mid-March, when the pandemic was declared, until end of September 2020, the loss for the sector at global level has been estimated around 50 billion USD in economic activity, 334.000 jobs and 15 billion USD in wages. As for Europe, the total loss has been estimated in 215.800 direct and indirect jobs and 7€ billion in total wages (Source: CLIA)
- Cruise companies have implemented adaptation strategies through new health and safety protocols and mandatory onboard measures to prevent risk of contagion.

Recreational boating and yachting

- Overall resilience of the sector. Although disaggregated data on the Mediterranean region are not available, the impact of the emergency has been less than expected (Source: European Boating Industry)
- During 2020, specific market segments of the sector have significantly grown, such as leasing, second-hand, nautical chartering and yacht/super yacht refitting
- Medium-sized brokerage firms relying on sales and charter business have been hit the hardest. Sales were reduced following the cancellation of numerous boat shows.
- Fiscal and financial measures have been designed to support European enterprises working in the sector who are in need
- The sector keeps having significant environmental impacts (e.g. Posidonia destruction, noise disturbance, turbidity, release of fuel and lubricants, sewage and grey water, antifouling paints, etc.)
- During lockdown periods, recreational boating and yachting came to a halt, with complete or partial restrictions for these activities, depending on the countries. Consequently, main impacts mentioned just above were also significantly reduced.

Interpretation of trends

This section attempts to draw a short conclusion on the past trends, to have a clear grasp of the situation from where we are conducting a foresight reflection.

Cruising

- Continuing strong growth in size and number of cruise ships and number of passengers.
- New cruise ships on the market do generally not replace older ones but add to the existing fleet.
- Saturation of some ports of call.
- A large part of the market depends on air traffic and is likely to rely on a more fluctuating flight frequency in the short and medium term.
- Social acceptance of cruising by local population is declining in many places.
- Return on investment for cruise ports of call is unclear due to high social and environmental externalities.
- Despite increasing environmental regulation and technological possibilities, pollution, including GHG emissions, is not reducing because of the strong market growth.

→ *The general trend is growth of the sector and of linked environmental degradation, noting however that social, environmental and economic (distributional) issues (externalities) become more and more visible to an increasing number of stakeholders.*

Yachting

- Continuing growth of the number and size of yachts.
- Many marinas are at full capacity during high season and cannot accommodate more yachts.
- A large part of the market is dependent on the air traffic and is likely to rely on a more fluctuating flight frequency in the short and medium term.
- Despite increasing environmental regulation and technological possibilities, pollution/ environmental degradation is not reducing because of the strong market growth.

→ *The general trend is growth of the sector and of linked environmental degradation with the capacity of marinas in the North being a limit.*

Recreational boating

- Stagnating market
- Long life cycle of boats, but many are reaching end-of-life.
- Average age of boat owners is increasing and younger generations have a different relationship with boat-owning (looking for integrated services, renting boats often becoming more appealing than owning, co-owning).
- Environmental degradation caused by recreational boating seems to stagnate at current levels without reducing.

→ *The general trend is stagnation (except for some niche segments) reaching a point that may be conducive to structural change.*

Identification of challenges

Considering the above, and with additional inputs of BlueBoatsMed partners, it is possible to outline preliminary elements to feed into scenarios that answer the following: **what might happen over the next years?**

Cruise sector

Supply and demand

- New cruise ships will enter the world market for an additional capacity of new beds, that will be likely fully filled (new ships are usually always full)
- The future might see an explosion in demand from Asian customers (rising middle class)
- The Mediterranean will continue to account for a high percentage of the world market

Technology

- Modern cruise ships might increasingly use diesel-electric engines as a source of power for propulsion, and for ship's systems
- LNG could become the main alternative for new passenger ships though difficulties linked to its use (e.g. placement of tanks, safety problems in its management, supplies and conservation, etc.) and strong resistance due to its contribution to climate change (methane accounts for approx. 95% of the LNG used in marine propulsion) persist
- Electrification of wharves to supply cruise ships in ports

Regulation

- Some ports of call who particularly suffered from cruising-related negative externalities might put a complete halt to cruising
- Regulatory pressure on the cruising sector might lead the industry to (i) actual strong pollution abatement if the regulatory framework is well-designed, or (ii) strong "green washing" activities if the regulatory framework is ambiguous
- Mediterranean-wide fuel standards might reduce the sulfur/nitrogen content of fuels (The Mediterranean to become a sulfur and nitrogen emission control area), decreasing air pollution

Interactions with local populations

- Cruising might become socially unaccepted by a majority of local populations in and around the ports of call, giving rise to tensions between cruise companies, cruise passengers, local populations and local governments.
- Strong social pressure on the cruising industry, in the case of absence of an adequate regulatory framework, might lead to strong "green washing" of the sector.

Recreational boating and yachting

- Despite the pandemic, the sector will likely confirm the positive trends of the last years in terms of sales while the boat-building sector may face a period of stagnation;
- Changes in market composition are likely to occur;
- Planned financial and fiscal supporting measures, as well as changing demand from a new generation of boat users, could allow accelerating the improvement of marinas in terms of diversified, and more integrated and environmentally friendly services;
- The on-going trend for sustainability solutions is likely to continue (e.g. hydrodynamic hulls for less fuel consumption, hybrid propulsion, recyclable materials and ecological paints for interiors, solar panels in place of generators, tanks for black and gray water, less impact of anchoring and mooring, etc.).
- Marinas especially in Western EU-Mediterranean countries are generally close to full occupation of their capacity. Greece and Turkey are about to follow the same trend. Boat owners may further explore marinas in Southern Mediterranean countries (Morocco, Algeria, Tunisia) as “home marinas” which they can reach easily via air traffic. This can be an option especially for international yacht owners from Russia, Arabian Peninsula, Asia who are used to flying into the Mediterranean to reach their boats.
- It is likely that there will be a renewal of the types of recreational boats anchored in Northern Mediterranean marinas and of the way their owners use them, due to three vectors of change: (i) The aging of recreational boat owners leading to a generational change once the “baby-boomers” will no longer enjoy boating; (ii)
- The high proportion of the fleet of recreational boats approaching end-of-life is likely to lead to a renewal of boats anchoring in marinas in the Northern Mediterranean (not necessarily by new boats but also by boats that were parked on land before).
- The high proportion of the fleet of recreational boats approaching end-of-life may lead to problems linked to their disposal and recycling. The absence of easy-to-use, readily available and economically interesting options for boat owners to manage disposal and recycling may lead to a high number of boats being sunk or abandoned on land.
- In recreational boating, a new post “baby-boomer” generation of boat users is likely to have a stronger desire to co-own or rent and to prefer more recent and “easy-to-use” boats.

As identified by BlueBoatsMed participants, the main challenges linked to the future development of the cruising and recreational boating/yachting sectors are linked to avoiding negative externalities, that is to say avoiding costs imposed by these sectors on third parties, including ecosystems, who did not agree to incur that cost or degradation.

Unless decisive action is taken, the following outcomes could accentuate and cumulate, translating into challenges to be addressed through strategic foresight and planning:

- Biodiversity and ecosystems, especially vulnerable ones such as Posidonia meadows, might undergo irreversible damage caused by (i) the presence of

- cruising, recreational boating and yachting, (ii) their practices, and/or (ii) their cumulative impacts with other uses of the sea/coastal zone.
- Local socio-economic systems may experience increased pressure due to degradations of the living conditions of local populations around the ports of call (encroachment, visual degradation of landscape, land use change, impairment of cultural identification with port environments, etc.) and unequitable distribution of economic benefits generated by the sectors (those who benefit are not those who bear the costs/degradation)
 - Air quality might further worsen, deteriorating public health, due to cruise ships' emissions in and around ports of call in a context of a growing cruise sector.
 - End-of life mismanagement of boats might lead to marine and on-land pollution and resource inefficiency.

What we may need to do?

Which strategic options are available to move forward the sustainability of the cruise and recreational boating sectors?

The BlueBoatsMed results matrix (attached in Annex II), outlines a number of promising innovations to address the challenges mentioned above. Each of these innovations can contribute to the progressive reduction of negative externalities caused by cruising and recreational boating/yachting, but they need to be considered as part of an integrated strategy for a sustainable industry, that includes innovations and measures in the fields of regulation and enforcement, technology, and communication and awareness raising.

Any such strategy can only be successful if the “landing point”, a set of concrete objectives set with a clear timeline and vision statement, is well defined and shared by all stakeholders. **Therefore, and in order to tackle the question of how to make cruising and recreational boating/yachting in the Mediterranean sustainable, an inclusive process to define a common strategy, vision and action plan must be engaged.**

The meeting-based set-up of BlueBoatsMed did not aim to define a vision, yet strategy or action plan for a sustainable development of the targeted sectors, but it allowed to identify key elements that may be contained in or transformed into an action plan. In addition to the results matrix (Annex II) the items below have been identified by BlueBoatsMed participants:

Cruise sector

- Implement policy mixes to incentive cruise companies towards emission reduction, efficiency measures, shore power, stop of the use of heavy fuel oil, nitrogen oxide catalysts, soot particle filters, etc.⁴
- Design clear mechanisms to monitor the implementation of IMO's global 0,5% sulfur oxide and nitrous oxide emissions cap on marine fuels and more stringent caps (0,1%) linked to the potential designation of the Mediterranean as an emission control area (ECA)
- Enforce and sanction emission standards and apply adequate penalties for cruise ships that continue using high-polluting heavy fuels and discharge liquid and solid waste at sea
- Set up recovery and resilience plans in order to protect sectors' jobs and SMEs liquidity through emergency measures (e.g. SURE as part of the Recovery and Resilience Facility)

Recreational boating and yachting

- Promote structural changes, in particular digital transformation of the sector and of its infrastructures
- Intensify R&I to reduce the size and the cost of batteries for electric navigation, including innovative anchoring and mooring systems
- Organize education and awareness campaigns for recreational boaters
- Support no-go zones or non-motorized tourism only in MPAs and/or ecological sensitive areas as well as eco-mooring areas in vulnerable coastal habitats
- Strengthen enforcement of environmental legislation frameworks

What will we do? How?

Which concrete recommendations should be submitted to decision makers and major stakeholders (*Strategy*) ?

The outcomes of the four BlueBoatsMed workshops (Annex II) can help decision makers as tools to move from the current and projected situations of cruising and recreational boating/yachting, which are characterized by high negative externalities, towards a more desirable future situation. But supporting promising innovations alone is unlikely to lead to true sustainability of the sector. **It appears crucial to make use of the identified innovations as part of an overall long-term and multi-stakeholder strategy.**

1. At the basis of a strategy for sustainable cruising and recreational boating/yachting, an **analysis of the current situation**, an initial assessment, can be conducted. BlueBoatsMed provides useful information in this sense through its "trends" analysis.

⁴ SEE the NABU VISION as for the requirements for climate compatible and sustainable cruises by 2050

2. **Defining the “landing point”, a vision shared by all stakeholders with a set of concrete objectives and a clear timeline.** This step is crucial because it will define what exactly “sustainability” means in the context of cruising and recreational boating/yachting (in other words, if we do not define where we want to go, we will never get there). It will describe a scenario, for example at the horizon 2050, that is desirable, or at least acceptable, for all stakeholders. At this point, existing strategies and commitments by Mediterranean-rim countries that directly – or indirectly concern the targeted industries, must be considered, for example the EU Green Deal and its carbon neutrality and zero pollution objective for 2050 (refer to the box below), which will logically call for zero-emission cruising by 2050.
3. Once this “landing point” is defined, analysis can be undertaken to **investigate the gap between the current unsustainable situation and the sustainable “landing point”**.
4. Then, an **action plan can** be sketched out to draw up a coherent set of measures, innovations and actions to be implemented in the short (2020-2025), medium (2030) and long (2050) term and **fill the gap** analyzed in the previous step. The innovations identified under BlueBoatsMed can play a role in providing concrete elements to be included in an action plan.
5. In parallel to the action plan, a coherent **monitoring and evaluation** framework must be set up with dedicated resources to **make sure that action taken is actually leading to the expected results**, and recommend adjustments to be made to the action plan.

The BlueBoatsMed participants identified the following actions that can support the above mentioned five steps.

Cruise sector

- Design coherent transition pathways towards zero-emission cruising. These pathways will take into account that some technologies, such as scrubbers or LNG, may be beneficial for example to reduce sulfur emissions, but create other adverse environmental and/or climate impacts. Investments in such technologies have a high risk of leading to stranded assets because they are incompatible with the long-term goal of zero emissions.
- Establish permanent dialogue with public and private investors to mainstream sustainable principles & targets into their investment strategies related to the cruise sector; HOW? Support past and on-going work on the adoption and implementation of sustainable finance principles in the Mediterranean
- Condition cruise companies' operation on sustainability indicators, including an equitable distribution of costs and benefits among stakeholders; HOW? update sector legislation for specific issues (e.g. waste management, prohibition of crossing or anchoring next to MPAs, etc.) and design of sector-specific monitoring methodological framework with destinations-specific indicators
- Transfer and mainstream already tested sustainable practices, tools and methodologies; HOW? Development of capitalization guidelines in collaboration with, and to be endorsed by, major sectorial actors
- Design capitalization events for visibility and transferability of outputs produced in the framework of case studies, and promote pilot actions to implement selected recommendations of the Med community (e.g. PHARO4MPAs) for low polluting and resource-efficient practices; HOW? inclusion as thematic priorities in major funding programmes (Interreg Med, ENI CBC, etc.).

Recreational boating and yachting

- Build small electric ferries for connecting the Mediterranean islands and islets carrying (less) people and (less) vehicles, and balance electric navigation with sailing tourism, especially in MPAs and ecologically sustainable areas HOW? Design and implementation of national planning tools (MSP/ICZM)
- Design regional strategies to preserve the most vulnerable habitats. HOW? Set-up eco-moorings zones based on viable economic models (mooring fees, mooring time restriction, fine for water pollution) to protect Posidonia meadows
- Limit motor boats (navigation, anchoring, mooring) over a specific length in MPAs or ecologically sensitive areas. HOW? Use policy mixes (administrative provisions, high entry prices, high fines, etc) to drastically limit the number of motor boats in such areas
- Involve the sector in carrying out monitoring actions to assess which specific sustainability aspects need to be urgently addressed. HOW? Innovative and more stringent mechanisms to comply with existing obligations (national legislation or regional one, such as the Protocol of the BCN Convention)
- Tackle the range of environmental challenges to marine ecosystems and biodiversity associated with multiple pressures and activities. HOW? Comprehensive national environmental programme for the cumulative impacts of the various sectors
- Transfer and mainstream successfully tested approaches, methods, tools and practices. HOW? Development of guidelines in collaboration with, and to be endorsed by, major sectorial actors.

All the above should be enshrined into an overall ecosystem approach framework built on conservation (Carrying Capacity) and planning (MSP/ICZM) tools.

Box: Strategies for cruising and recreational boating/yachting will have to align with existing policies - Focus on the EU Green Deal

At European level, and concerning all economic activities, the **EU Green Deal** and its linked thematic strategies and action plans, establishes clear targets: zero net greenhouse gas emissions and zero pollution by 2050. These objectives concern the overall socio-economic system and must logically also apply to cruising and recreational boating/yachting in European-Mediterranean waters. The **EU Biodiversity Strategy**, that supports the Green Deal, sets out the aim to protect 30% of the EU Seas through Marine Protected Areas by 2030 of which one third through strict protection measures. This “strict” protection could for example translate into no-go zones (thus implying de-routing or even eliminate the possibility to call in certain ports). The Green Deal is also very explicit about the fact that the ecological transition for Europe can only be fully effective if the EU’s immediate neighborhood also takes effective action – in this case the Southern neighborhood of non-EU Mediterranean countries – and the EU has allocated funding to support its neighborhood in this sense.

Annex I – BlueBoatsMed Infographic

DEVELOPMENTS OF MEDITERRANEAN CRUISE AND RECREATIONAL BOATING SECTORS

BlueBoatsMed

BlueBoatsMed is a StartUp Action promoted by the BlueMed CSA to boost the development of innovative ideas gearing to sustainable Blue Growth in the Mediterranean. More info: <http://www.bluemed-initiative.eu/the-startup-actions/>.

BlueBoatsMed is engaged to:



1.) TRENDS

Analyse and evaluate the prospects for further and sustainable expansion in the cruise and recreational boating sectors in the Mediterranean, based on the partners' knowledge and on-going research.

2.) STAKES

Agree on up to four main environmental or societal challenges associated with such expansion (i.e. challenges linked to the rapid changes the cruise and recreational boating sectors are undergoing and expected to experience in the upcoming years).



3.) PROMISING INNOVATIONS AND CONDITIONS FOR SCALING UP



For each selected challenge, present up to three promising innovations through case studies; discuss the potential and readiness for further uptake of these innovations, and identify the main instruments (or policy mixes) necessary to accompany these transitions in the short, medium and long terms.

4.) GUIDELINES

Contribute to outlining and designing guidelines for a sustainable and inclusive cruise and recreational boating sector, including yachting, in the Mediterranean.



FIRST MEETING: WEB BASED

This first meeting focused on 'identifying major trends, key challenges and promising innovations in the cruise and recreational boating sectors'.



SECOND MEETING: GENOVA, ITALY

Challenge linked with a potential improvement as well as any existing pilot projects where applicable, the measure's potential to significantly reduce impact, the timeframe and any key conditions and levers for dissemination.

START UP ACTION SUPPORTED BY THE BLUEMED CSA

<http://www.bluemed-initiative.eu/>

blueMed

Supported by the BLUEMED CSA (GA 727453) funded by the European Commission
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Annex II – BlueBoatsMed Results Matrix

Identification of trends, 4 challenges and related innovations

Trends	Challenges (applying to both cruising and recreational boating)	Innovations (applying to both cruising and recreational boating)
<p><u>Cruise</u></p> <ul style="list-style-type: none"> - N° of passengers, n° of passenger movements (8.6 million in 2000 vs. 28 in 2018) and size of vessels growing and expected to continue to grow, 5 ports with more than 3000 pax/call on average, 8 ports with more than 1 million passengers/year⁵ - Off-season cruising growing in some ports - High season = May-Oct (70% of pax movements and 80% of calls) with October being the highest - Cruising is mostly and increasingly concentrated in the West Med (75%) - Cruising ~5% of total tourism market (Expert judgement A. Cappato) - The sector is vulnerable to shocks: geopolitical/security/health issues. But as a mitigation strategy to some of these shocks, cruise ships have the advantage of being easily relocatable to other places in the world. - Public investment in ports does not always imply local return on investment. The economic impact of embarking/ disembarking passenger is different than that of a transit passenger. The distributional effects of revenues from cruising and negative impacts from cruising seem to be inequitable. - Past trends show that the cruising market is driven by the offer: Each time a new cruise ship enters the market, it is fully booked. Given long investment periods (~20 years) and long construction periods that are well recorded in international book orders of cruise ships, and the offer-driven nature of the sector, the market is relatively easily projectable into the medium-term future. But this also comes with a certain inertia that must be considered when designing transitions. - The future might see an explosion in demand from Asian customers (rising middle class). 	<p>Safeguarding ecosystems and biodiversity</p>	<ul style="list-style-type: none"> - Establish authorization procedures to sail in extremely sensitive areas and linked buffer zones, including carrying capacity control (limit n° of permits, visitors, moorings, ...) - Local mobility solutions in cruise destination cities - Use citizen science and involvement for monitoring <i>Posidonia oceanica</i> and other sensitive marine habitats /species and increase awareness on impacts of anchoring - Regulate anchoring type (mooring to buoys, on sandy ground) and promote the use of innovative ecological anchors (see start-up from Marseille) - Promote “smart boats”: environmentally friendly management of the boat that is connected to technology and applications (see application in Balearic Islands for anchoring)
	<p>Ensuring that boating and cruising do not adversely impact local socio-economic systems and that benefits are shared in an equitable way</p>	

		Location	Contact of implementing institution	Readiness	Ubiquity			Key conditions	Stakeholders to take initiative	Nature of accompanying instrument ⁶	
Floating anchoring	Sea bed protection	MPA Portofino and Kuriat area (to be implemented)	Management Consortium	Ready	Easily transferable sites (Calanque)	High	Since now	Existence of this system in the management plan	Higher level authority Local authority coast guard boats owners local NGOs (x communication) MPA	Public awareness Communication Showcasing	yes
Ecological anchor	Protect Posidonia Meadows	MPA Calanque	Private enterprise	Patent existence	Yes, high potential	High	Available	Information of the user (see Innovation 9) Enforcement Local adaptation of technique Regulatory framework			
Electric engine x ferry boats	Reduce emissions and noises	MPA Portofino	Management consortium	Not ready	A bit expensive	High	Long	Financial resources for infrastructure and ship equipment	Management Consortium	Economic instruments Communication	no

⁶ legal, economic, informational, institutional, financial...

								(similar to terrestrial e-services) Obligation when offering ferry services in public contracts Obligations use e-engines for specific trips/ destinations and sensitive habitats/zones	Local authorities Port authorities	Pilot visits	
Engagement of cruise company in water monitoring	Pursuing GES	All over the Med	Cruise company	Not ready but already existing for ferry boats	Easily implementable everywhere	limited	Short/medium	Equipment paid by the company Train crew or hosted observer Label/recognition => greenwashing	Cruise company research/scientific actors Cruise tourists	Lobbying/Economic (recovery of investments) Citizen Science for awareness raising	no
Ensure the financial viability of MPAs (Trust)	MPAs sustainability	All MPAs	Local Authority	Difficult	Yes	High	Medium/long	Regulatory framework (taxes)	Legislators	Tax scheme (to be discussed with MedPAN)	no

Reduce underwater noise and disturbance	Marine biodiversity protection	MPA Portofino	Management Consortium	ready	Other Liguria MPAs	High	Medium-long	See Innovation 3, Speed control Knowledge about sea habitats Improve knowledge of noise mapping and impact studies and make it available	EC funding, research	Regulatory framework (protocol of conduct)	yes
Fuel engine to feed batteries (approaching maneuvering) TO BE FURTHER ELABORATED	Reduction of emissions	Not yet put in place?		Not ready		Medium	Medium / long		Cruise companies		
Direct sanctioning for mooring on Posidonia and mobile app to book moorings	Conservation of Posidonia Meadows	Balearic Islands		ready	Replicable	High / medium	medium	Unify regulations for Posidonia-anchoring all through the Med	Legislators / policy-makers	Regulatory framework	yes

2. Innovations to tackle the challenge “Ensuring acceptable air quality and limiting air pollution”

Innovation	Main environmental/ societal objective / benefit	Pilot		Potential for dissemination		Potential to significantly reduce impact (high, medium, limited, extremely limited)	Term (short, medium, long)	Key conditions & levers for dissemination			Potential to inspire guidelines
		Location	Contact of implementing institution	Readiness	Ubiquity			Key conditions	Stakeholders to take initiative	Nature of accompanying instrument ⁷	
Speed restrictions	Less air pollution, less fuel consumption, less collision with cetaceans	Not yet implemented. Question on whether should be implemented everywhere or only in special areas	n/a	Ok.	All Mediterranean waters and international waters (IMO)	Medium	Medium (regulatory calendar = rel. long and cruise companies need time to adapt itineraries)	Speed restriction most be by law (voluntary approach unlikely to work). Negative part: cruise boats would spend less time in cruise destinations/ shorter calls → smaller economic impact in destinations and more concentration of passenger in destinations. Cruise lines would need to adapt	IMO or national authorities to regulate speed. National regulation also possible in territorial waters. Cruise lines and captains to act directly on	Enforcement procedure of the measure is crucial with a clear and stringent sanctioning mechanism. Accompany with ECA in a policy mix for air pollution would be good.	yes

⁷ legal, economic, informational, institutional, financial

								<p>itinerary. Optimize itinerary.</p> <p>Credibility (clear calendar and clear enforcement procedures = necessary for market acceptance)</p> <p>Measure would be most efficient if implemented in whole Mediterranean, or at least sub-regional (West Med).</p>	reducing speed.	Question on if overall maritime transport must be regulated as well.	
Electrification of quays/shore power	Reduce most of air pollution when cruise vessels plugged at quay	Hamburg for three cruise ships, passenger ferries in Marseille		Large infrastructure needed in ports	idem	Extremely high, but only decarbonize if based on renewables	Medium to long	Not feasible, at least in the short run, since large amounts of electricity would be needed and this implies to increase network supply capacity	Port authorities to initiate. Electricity providers	Electricity taxes. Funding of electrification to be supported by the cruise companies – not the	yes

										ports (expensive).	
Generalize and standardize measuring devices in ports and on the coastline for air pollution monitoring	Increase adequate knowledge about air quality in ports	?	?				Medium / long	Agree on harmonized monitoring (what do we measure, where, when, ...) and capacity building of authorities to conduct the monitoring. Can help to introduce certification of "low pollution" vessels/ports.	National authorities		
Port use tariff reduction for good environmental management and clean fuel types		Gothenburg						This is already the case in several ports and it is a powerful tool	Ports authorities and cruise companies		
LNG	Decrease air pollution but carbon emissions							Not an option. It can reduce air pollution but it would be as bad for climate as fossil			

	remain (fossil fuel)							fuels due to emissions of methane			
Reduce passenger capacity of cruise ships								Difficult to engage with cruise company on a proposal of this kind. More effective to advocate for the application of the concept of “carrying capacity” at destination level as under the Barcelona Convention			
Decentralize cruise terminals out of city centers (Venice)								After discussion, it was concluded that is not the best option. It would shift impact to sites not yet developed			
Synchronize road traffic light information	Reduce congestion							It may be effective only if part of a wider mobility strategy.			

system with punctual arrival of cruise passengers going for coach visits (integrate into city mobility management)											
Hydrogen powered engines							Long-term				

3. Innovations to tackle the challenge “Ensuring that boating and cruising do not adversely impact local socio-economic systems and that benefits are shared in an equitable way” and “Promoting a circular economy of boats and related equipment”

	Main environmental/ societal	Pilot	Potential for dissemination	Potential to significantly reduce impact (high, medium, long)	Term (short, medium, long)	Key conditions & levers for dissemination	Potential to inspire guidelines
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Innovation	objective / benefit	Location	Contact of implementing institution	Readiness	Ubiquity	limited, extremely limited)		Key conditions	Stakeholders to take initiative	Nature of accompanying instrument ⁸	
Information on waste sorting for cruise ships (in support of Port reception facilities Directive)	Waste prevention/ sorting	Copenhagen	ACR+/Copenhagen Malmoe Port	Almost ready to be replied		Medium (actual phase of implementation), potentially high (alignment with municipal regional waste management systems)	Medium/long	Different means of communication (audio, print, static signs) Obstacles: Waste tourism of ships; challenge: small marinas without infrastructure	Port authorities; Municipalities; waste management authorities	Tourist information campaign; better signalization of bins/waste fractions in cruise ships, crew information and training (international nature of cruise); sorting facilities in ports/marinas need to be in place; mapping of waste management facilities in each place/port city; reduction of waste at source (procurement of products used on cruise ships)	Regional adaptive systems to comply with Port facilities directive

⁸ legal, economic, informational, institutional, financial...

<p>App to Map where are the boats / what to do with the materials</p>	<p>Recycle materials/ circular economy</p>			<p>Not ready</p>	<p>Potential, but usually in Europe</p>		<p>Medium/ long term</p>	<p>Economic viability/awareness of the users / have to know who the owner is and contact him</p>		<p>Work with construction companies to only use recyclable material in boats. Full life cycle management. Apt for sunken boats.</p>	<p>In France: a law has been made for this. Problem: glass fiber not recyclable. 2 start-ups in France on the subject. In France you only pay the transport, then treatment is free. APER is managing the waste then (they are paid a fee from boat contraction companies). In Spain= 10k abandoned boats. Average + 10% every year.</p>
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Sponge that absorbs hydrocarbons		Genova	Lab in Genova	Move from the lab to the industry		high					
Tax for passengers who are staying less than 1day	Benefit for local economy	Venice						<p>It may be more difficult to put that in place in other cities than in Venice...</p> <p>Problem is cost just added to cruise ship ticket (consumers not knowing that they pay it).</p> <p>Undo tax reductions applied for cruise companies.</p>	<p>Need to evaluate environmental impact and then have a science-based tax.</p> <p>Assess the carrying capacity) of each port.</p> <p>When high pollution (winter in Barcelona for example), reduce n° of participants.</p> <p>When there is a limit, we can ask for higher price</p>		

									(tax or higher environmental management). Switching from quantity to quality tourism. Port authority to collect tax. Have a common taxation/reassigning around the Med to not just shift problems elsewhere.		
Renting your boat / app: communicating on codes of conduct	Raise awareness			Not ready				Long term	Need to work with the apps		Look: Freedom boat club 40000 members in USA, 200 sites. Or "sail with". Sector changed from property to use.
Electric boating								Problems of infrastructures			Ex: E-boats, company working in



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