

*BLUEMED Initiative
Start-up Action
BlueBoatsMed*

SHORT FORESIGHT REPORT ON CRUISING, YACHTING AND RECREATIONAL BOATING IN THE MEDITERRANEAN

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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.

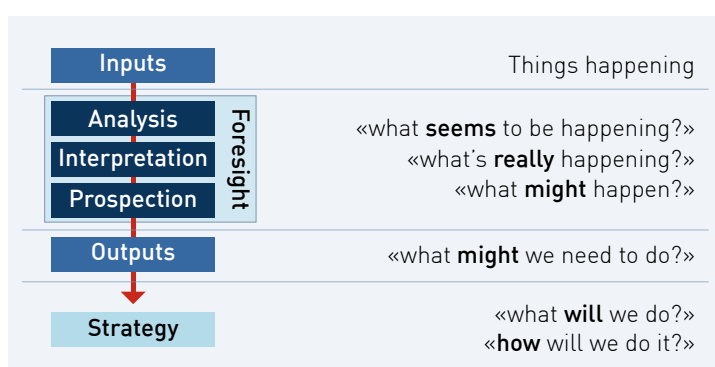
A total of 25 experts went through these four steps at the occasion of four brainstorming meetings (webinar in April 2019, face-to-face meeting in Genova, Italy in June 2019; face-to-face meeting in Marseille, France in November 2019, webinar in October 2020). The results of the discussions are reflected 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 (Joseph Voros, A Generic Foresight Process Framework, 2001).

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* 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 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 labels.¹
- ~ Concentration of marinas and ports close to MPAs, increasing pressure on fragile ecosystems.²
- ~ Most recreational boats go out sailing only around 10 times/year.
- ~ Growing significance of refit and repair industries as sub-sectors.

1. 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.

2. For more information on recreational boating and MPAs, we invite you to refer to a recent report published by a BlueBoatsMed partner: González D., A., Campanales, S., Grimalt, M. [2020]. Managing the environmental sustainability of nautical tourism in Mediterranean MPAs. Capboating Project. Edited by eco-union.

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:

Cruise sector

- ~ Tourism is the most affected sector by the COVID-19 crisis with an estimated decline between 60% and 80%. 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.
- ~ 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 (III) 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.³
- ~ 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.

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

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.
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).
- ~ 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).
- ~ Design regional strategies to preserve the most vulnerable habitats. HOW? Set-up eco-mooring zones based on viable economic models (mooring fees, mooring time restriction, fine for water pollution) to protect Posidonia meadows.
- ~ 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.
- ~ 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.
- ~ 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.

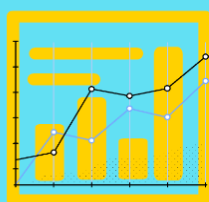
ANNEX I – BlueBoatsMed Infographic

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.



MEETING: WEB BASED

1
This first meeting focused on 'identifying major trends, key challenges and promising innovations in the cruise and recreational boating sectors'.

MEETING: GENOVA, ITALY

2
Three working groups were set up to discuss the environmental and societal challenges associated with the expansion of the cruise and recreational boating sector.

MEETING: MARSEILLES, FRANCE

3
Discussion revolved around the conditions and levers necessary to support the transition to the sustainability of the sector through continued developments of guidelines.

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
DG Research and Innovation

ANNEX II – BlueBoatsMed Results Matrix

IDENTIFICATION OF TRENDS, 4 CHALLENGES AND RELATED INNOVATIONS

TRENDS

CRUISE

- ~ 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/year.
- ~ 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).

RECREATIONAL BOATING AND YACHTING

SUPERYACHTS/MEGAYACHTS

- ~ N° of mega yachts (more than 34 m long) increasing: 5373 in 2018 in the world (just over 2000 in 1999, 4463 in 2012), out of which 70% are sailing in the Med all the year, with the phenomenon of seasonal transfer of mega yachts between the Med and the Caribbean having very much declined. The yachts stay in the Med.
- ~ The cost of a mega yacht ~ 1 million per meter. Mega yachts have a considerable economic impact on ports = about 10% of the yacht's value/year for insurance, fuel, dockage fees, maintenance, crew, etc.
- ~ Mega yachts have increasingly good facilities to manage environmental problems.
- ~ Book orders for superyachts full for the next 2-3 years (reference year 2020).



TRENDS

RECREATIONAL BOATING AND YACHTING

RECREATIONAL BOATS < 24 M

- ~ Owners are mainly locals.
- ~ The average age of owners of recreational boats is increasing and getting old. There will be a discontinuity between generations of boat owners.
- ~ There are changes in the use of recreational boats: (I) emergence of "Air BnB"-type business models for boats (change from ownership to experience), (II) boats go out sailing only around 10 times/year and stay at the marina most of the time, sometimes used rather as a holiday home (phenomenon comparable to that of camping caravans decades earlier). Marinas become parking lots for boats instead of being sources of territorial development, (III) increase of organized week-end sailing trips.
- ~ Increasing number of related services proposed to boaters.
- ~ Refit and repair industry are significant sub-sectors and are becoming increasingly important: Italy is the world's top country, followed by USA, France, Spain and Greece.
- ~ Outboard engines are developing.
- ~ Increase of hybrid and electric propulsion.
- ~ Large catamarans = the segment that witnesses continuous growth.
- ~ Italian and French boat construction is dominating the market. But many brands struggle to identify niche segments that still grow on a recreational boating market that is rather stagnating.
- ~ Marinas are more and more orienting their business models towards integrated services and sustainability label, 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.
- ~ The interdiction to anchor on Posidonia meadows has become a law (to be checked if this applies to all Mediterranean countries).
- ~ Marinas especially in Western EU-Med countries are generally close to full occupation of their capacity. Greece and Turkey are about to follow the same trend. Linked to this phenomenon, 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 superyacht owners from Russia, Arabian peninsula, Asia who fly into the Mediterranean to reach their boats anyways.

EMERGING SECTOR: FLOATING HOLIDAY HOUSES (FOR EXAMPLE IN THE PORT OF GRUISSAN, FRANCE)

- ~ Impacts not yet well understood / studied.

CHALLENGES

(applying to both cruising and recreational boating)

- ~ Safeguarding ecosystems and biodiversity.
- ~ Ensuring that boating and cruising do not adversely impact local socio-economic systems and that benefits are shared in an equitable way.
- ~ Ensuring acceptable air quality and limiting air pollution.
- ~ Promoting a circular economy of boats and related equipment (boats being abandoned inland or sunk in the sea).

INNOVATIONS

(applying to both cruising and recreational boating)

- ~ 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 Posidonia oceanica 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).
- ~ Speed restrictions (reducing noise/emissions/collisions and reduce fuel costs).
- ~ ECA/SECA.
- ~ Shore power for cruise vessels and recreational boats/yachts.
- ~ LNG - fueled cruise vessels.
- ~ Smart marinas (digitalization for advanced and diversified offer of services).

1. INNOVATIONS TO TACKLE THE CHALLENGE “SAFEGUARDING ECOSYSTEMS AND BIODIVERSITY”

	INNOVATION 1 : FLOATING ANCHORING	INNOVATION 2 : ECOLOGICAL ANCHOR	INNOVATION 3 : ELECTRIC ENGINE X FERRY BOATS
Main environmental / societal objective / benefit:	Sea bed protection	Protect Posidonia Meadows	Reduce emissions and noise
Pilot			
-Location:	MPA Portofino and Kuriat area (to be implemented)	MPA Calanques, Marseille	MPA Portofino
-Contact of implementing institution:	Management consortium	Private enterprise	Management consortium
Potential for dissemination			
-Readiness:	Ready	Patent existing	Not ready
-Ubiquity:	Easily transferable sites (Calanque)	Yes, high potential	Cost = limiting factor
Potential to significantly reduce impact (high, medium, limited, extremely limited):	High	High	High
Term (short, medium, long):	Available	Available	Long
Key conditions & levers for dissemination			
-Key conditions:	Existence of this system in the management plan, Information of the user (see Innovation 9), Enforcement, Local adaptation of technique, Regulatory framework		Financial resources for infrastructure and ship equipment (similar to terrestrial e-services) Obligation when offering ferry services in public contracts Obligation to use for specific trips/destinations and sensitive habitats/zones
-Stakeholders to take initiative:	Higher level authority, local authority, coast guards, boat owners, local NGOs (for communication), MPAs		Management, Consortium, Local authorities, Port authorities
-Nature of accompanying instrument ⁴ :	Public awareness, Communication, Showcasing		Economic instruments, Communication, Pilot visits
Potential to inspire guidelines:	Yes	Yes	No

4. legal, economic, informational, institutional, financial...

	INNOVATION 4 : ENGAGEMENT OF CRUISE COMPANY IN WATER MONITORING	INNOVATION 5 : ENSURE THE FINANCIAL VIABILITY OF MPAS (TRUST)	INNOVATION 6 : REDUCE UNDERWATER NOISE AND DISTURBANCE
Main environmental / societal objective / benefit:	Pursuing GES	MPAs sustainability	Marine biodiversity protection
Pilot			
-Location:	All over the Med	All MPAs	MPA Portofino
-Contact of implementing institution:	Cruise company	Local Authority	Management consortium
Potential for dissemination			
-Readiness:	Not ready but already existing for ferry boats	Difficult	Ready
-Ubiquity:	Easily implementable everywhere	Yes	Other Liguria MPAs
Potential to significantly reduce impact (high, medium, limited, extremely limited):	limited	High	High
Term (short, medium, long):	Short/medium	Medium/long	Medium/long
Key conditions & levers for dissemination			
-Key conditions:	Equipment paid by the company, Train crew or hosted observer, Label/recognition = → greenwashing	Regulatory framework (taxes)	See Innovation 3, Speed control, Knowledge about sea habitats, Improve knowledge of noise mapping and impact studies and publish these studies
-Stakeholders to take initiative:	Cruise company research/ scientific actors, Cruise tourists	Legislators	EC funding, Research
-Nature of accompanying instrument ⁴ :	Lobbying/Economic (recovery of investments), Citizen Science for awareness raising	Tax scheme (to be discussed with MedPAN)	Regulatory framework (protocol of conduct)
Potential to inspire guidelines:	No	No	Yes

	INNOVATION 7 : FUEL ENGINE TO FEED BATTERIES (APPROACHING MANEUVERING) TO BE FURTHER ELABORATED	INNOVATION 8 : DIRECT SANCTIONING FOR MOORING ON POSIDONIA AND MOBILE APP TO BOOK MOORINGS	INNOVATION 9 : GENERAL INFORMATION ON ZONING AND RESTRICTION
Main environmental / societal objective / benefit:	Reduction of emissions	Conservation of Posidonia Meadows	Users awareness
Pilot			
-Location:	Not yet put in place	Balearic Islands	
-Contact of implementing institution:			
Potential for dissemination			
-Readiness:	Not ready	Ready	
-Ubiquity:		Replicable	
Potential to significantly reduce impact (high, medium, limited, extremely limited):	Medium	High/medium	
Term (short, medium, long):	Medium/long	Medium	
Key conditions & levers for dissemination			
-Key conditions:		Unify regulations for Posidonia-anchoring all through the Med	Standardized information of : - Zoning - Restrictions - Uses - Behavior Interoperability with common navigation software
-Stakeholders to take initiative:	Cruise companies	Legislators/policy-makers	MPA managers, National ministries/agencies NGOs
-Nature of accompanying instrument ⁴ :		Regulatory framework	Communication awareness raising
Potential to inspire guidelines:		Yes	Yes

	INNOVATION 10 : ECOLOGICAL FOOTPRINT OF CRUISERS	INNOVATION 11 : AIS DATA
Main environmental / societal objective / benefit:	Evidence - based decision making	Effective monitoring of MPAs no-go zones
Pilot		
-Location:		
-Contact of implementing institution:		
Potential for dissemination		
-Readiness:		
-Ubiquity:		
Potential to significantly reduce impact (high, medium, limited, extremely limited):		
Term (short, medium, long):		
Key conditions & levers for dissemination		
-Key conditions:	buy-in from private companies challenging	
-Stakeholders to take initiative:		
-Nature of accompanying instrument ⁴ :		
Potential to inspire guidelines:		

2. INNOVATIONS TO TACKLE THE CHALLENGE

“ENSURING ACCEPTABLE AIR QUALITY AND LIMITING AIR POLLUTION”

	INNOVATION 1: SPEED RESTRICTIONS	INNOVATION 2 : ELECTRIFICATION OF QUAYS/SHORE POWER	INNOVATION 3 : GENERALIZE AND STANDARDIZE MEASURING DEVICES IN PORTS AND ON THE COASTLINE FOR AIR POLLUTION MONITORING
Main environmental / societal objective / benefit:	Less air pollution, fuel consumption, and collision with cetaceans	Reduce most air pollution when cruise vessels plugged at quay	Increase adequate knowledge about air quality in ports
Pilot			
-Location:	Not yet implemented. Question on whether should be implemented everywhere or only in special areas	Hamburg for three cruise ships, passenger ferries in Marseille	
-Contact of implementing institution:	n/a		
Potential for dissemination			
-Readiness:	Ok.	Large infrastructure needed in ports	
-Ubiquity:	All Med territorial waters and international waters (IMO)	Where ports can accommodate large infrastructure	
Potential to significantly reduce impact (high, medium, limited, extremely limited):	Medium	Extremely high, but only decarbonize if based on renewables	
Term (short, medium, long):	Medium (regulatory calendar = rel. long and cruise companies need time to adapt itineraries)	Medium to long	Medium / long
Key conditions & levers for dissemination			
-Key conditions:	Speed restrictions must be by law (voluntary approach unlikely to be effective). Trade-off: cruise vessels would spend less time in cruise destinations leading to a smaller economic impact in destinations and a higher concentration of passengers in destinations. Cruise lines would need to adapt and optimize itineraries. Clear enforcement procedures and calendar necessary for market acceptance. Measure would be most efficient if implemented in the entire Mediterranean, or at least per subregion, in particular West Med.	Not feasible, at least in the short run, since large amounts of electricity would be needed and this implies to increase network supply capacity	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.
-Stakeholders to take initiative:	IMO or national authorities to regulate speed. Countries to enforce. National regulation also possible in territorial waters. Cruise lines and captains to act directly on reducing speed.	Port authorities to initiate. Electricity providers	National authorities
-Nature of accompanying instrument ⁴ :	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. Question on if overall maritime transport must be regulated as well.	Electricity taxes. Funding of electrification to be supported by the cruise companies – not the ports (expensive).	
Potential to inspire guidelines:	Yes	Yes	

	INNOVATION 4 : PORT USE TARIFF REDUCTION FOR GOOD ENVIRONMENTAL MANAGEMENT AND CLEAN FUEL TYPES	INNOVATION 5 : LNG	INNOVATION 6 : REDUCE PASSENGER CAPACITY OF CRUISE SHIPS
Main environmental / societal objective / benefit:		Decrease air pollution but carbon emissions remain (fossil fuel)	
Pilot			
-Location:	Gothenburg		
-Contact of implementing institution:			
Potential for dissemination			
-Readiness:			
-Ubiquity:			
Potential to significantly reduce impact (high, medium, limited, extremely limited):			
Term (short, medium, long):			
Key conditions & levers for dissemination			
-Key conditions:	This is already the case in several ports and it is a powerful tool	Not an option. It can reduce air pollution but it would be as bad for climate as fossil fuels due to emissions of methane	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
-Stakeholders to take initiative:	Ports authorities and cruise companies		
-Nature of accompanying instrument ⁴ :			
Potential to inspire guidelines:			

	INNOVATION 7 : DECENTRALIZE CRUISE TERMINALS OUT OF CITY CENTERS (VENICE)	INNOVATION 8 : SYNCHRONIZE ROAD TRAFFIC LIGHT INFORMATION SYSTEM WITH PUNCTUAL ARRIVAL OF CRUISE PASSENGERS GOING FOR COACH VISITS (INTEGRATE INTO CITY MOBILITY MANAGEMENT)	INNOVATION 9 : HYDROGEN POWERED ENGINES
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Main environmental / societal objective / benefit:		Reduce congestion	
Pilot			
-Location:			
-Contact of implementing institution:			
Potential for dissemination			
-Readiness:			
-Ubiquity:			
Potential to significantly reduce impact (high, medium, limited, extremely limited):			
Term (short, medium, long):			Long-term
Key conditions & levers for dissemination			
-Key conditions:	After discussion, it was concluded that this option is not desirable because it would shift impacts to currently undeveloped sites and create other problems (transfer of visitors into the city center for visits, etc.)	It may be effective only if part of a wider mobility strategy.	
-Stakeholders to take initiative:			
-Nature of accompanying instrument ⁴ :			
Potential to inspire guidelines:			

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”

	INNOVATION 1: INFORMATION ON WASTE SORTING FOR CRUISE SHIPS (IN SUPPORT OF PORT RECEPTION FACILITIES DIRECTIVE)	INNOVATION 2 : APP TO MAP WHERE ARE THE BOATS / WHAT TO DO WITH THE MATERIALS	INNOVATION 3 : SPONGE THAT ABSORBS HYDROCARBONS
Main environmental / societal objective / benefit:	Waste prevention/sorting	Recycle materials, Circular economy	
Pilot			
-Location:	Copenhagen		Genova
-Contact of implementing institution:	ACR+/Copenhagen and Malmoe Ports		Lab in Genova
Potential for dissemination			
-Readiness:	Almost ready for replication	Not ready	Move from the lab to the industry
-Ubiquity:		Potential, but usually in Europe	
Potential to significantly reduce impact (high, medium, limited, extremely limited):	Medium (actual phase of implementation), potentially high (alignment with municipal regional waste management systems)		high
Term (short, medium, long):	Medium/long term	Medium/long term	
Key conditions & levers for dissemination			
-Key conditions:	Different means of communication (audio, print, static signs) Obstacles: Waste tourism of ships; Challenge: small marinas without infrastructure	Economic viability/wareness of the users/ability to identify and contact boat owners easily	
-Stakeholders to take initiative:	Port authorities; Municipalities; waste management authorities		
-Nature of accompanying instrument ⁴ :	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)	Work with construction companies to only use recyclable material in boats. Full life cycle management. Mobile application to locate and notify sunken boat	
Potential to inspire guidelines:	Regional adaptive systems to comply with Port facilities directive	In France: a law addresses the issue. 2 start-ups are recycling, but the problem is that glass fiber is not recyclable. The owner pays for the transport then the treatment is free. Waste is managed by the national non-profit association for eco-responsible recreational boating (APER), which is funded through a fee collected from boat builders. In Spain : 10k abandoned boats. Average + 10% every year.	

	INNOVATION 4 : TAX FOR PASSENGERS WHO ARE STAYING LESS THAN 1 DAY	INNOVATION 5 : RENTING YOUR BOAT / APP: COMMUNICATING ON CODES OF CONDUCT	INNOVATION 6 : ELECTRIC BOATING
Main environmental / societal objective / benefit:	Benefit for local economy	Raise awareness	
Pilot			
-Location:	Venice		
-Contact of implementing institution:			
Potential for dissemination			
-Readiness:		Not ready	
-Ubiquity:	Implementation easiest in destinations with high awareness of negative social/economic externalities of cruising		
Potential to significantly reduce impact (high, medium, limited, extremely limited):		Long term	
Term (short, medium, long):			
Key conditions & levers for dissemination			
-Key conditions:	Fee must be visible to cruise customers (not just integrated in the overall cruise ticket price). Fee would be most effective if integrated into an overall fiscal strategy vis-à-vis cruise companies		Infrastructure requirements are challenging (charging at port)
-Stakeholders to take initiative:	Need to evaluate environmental impact to develop a science-based tax collected by port authorities. Assess the carrying capacity (number of vessels and number of visitors) of each port, which may vary depending on the season. Limiting the offer in this way can lead to a higher fee to be charged to cruise companies/visitors in destinations and potentially lead to a more quality (versus quantity) tourism and would be most effective if coordinated between similar destinations in the Med (thus avoiding shifting of negative externalities to another destination)	Need to work with mobile application developers and managers	
-Nature of accompanying instrument ⁴ :			
Potential to inspire guidelines:		Behavior change of boat users switching from property to use. For example, "Freedom boat club" with 40 000 members and 200 sites in the USA, the application "sail with", or "Click'nBoat"	For example: "E-boats", company working in sustainable/circular economy

INNOVATION 7 :
INCLUDING MANDATORY
ENVIRONMENTAL AWARENESS AND
TRAINING IN BOAT PERMIT COURSES
AND PROFESSIONAL CERTIFICATIONS
USING BOATS (MARINE GUIDES,
CHARTER COMPANIES,.....)

INNOVATION 8 :
REGULATE RENTING OF < 6M BOATS
TO HAVE AT LEAST SAFETY AND
ENVIRONMENTAL BRIEFING


Table for innovations 7 and 8 not filled in during the BlueBoatsMed project.

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