

CO-EVOLVE

Promoting the co-evolution of human activities and natural systems for the development of sustainable coastal and maritime tourism

Deliverable 4.4.3-R2

Report on advancement of Pilot actions implementation



Activity 4.4

Pilot action n°2a– Cattolica port and coast area

EMILIA-ROMAGNA REGION

Table of contents

1. Scope of the document	3
2. CO-EVOLVE and the objectives of WP4	3
3. The strategic planning of Pilot area	3
4. Brief description of the Pilot area	5
5. Planning SET-UP in the pilot area	5
6. Building knowledge framework in the pilot area	39
7. Defining vision-goals-objectives	45

1. Scope of the document

This document is the report on advancement on pilot actions implementation and corresponds to Deliverable 4.4.1. It's based on concept described in the deliverable 3.18.1 "Guidelines for Tourism-driven strategic Planning" and contains the advancement of activities foreseen in the pilot area 2A Cattolica Port and Coast area for the final formulation of local Action Plans on sustainable tourism

2. CO-EVOLVE and the objectives of WP4

The WP4 (M2-Testing) translates in practice the findings of WP3 in order to implement Pilot Actions (plans, concrete actions and measures), setting the conditions for a sustainable tourism in coastal areas and related maritime space and promoting robust and transparent decision-making processes. CO-EVOLVE recognizes as a key challenge for sustainable coastal and maritime tourism development the strengthening of cooperation among Regions and the joint development and transferring of approaches, tools, guidelines and best practices. The actions envisaged are systemic, ecosystem-based and dynamic, taking into account future scenarios of natural (i.e. climate change) and anthropogenic changes. The Pilot Actions embrace a wide range of case in the Med area, from coastal urbanized or exploited areas (including port areas, structured waterfronts, different kind of beaches with tourism facilities, etc.) to natural protected areas (Natura 200, Ramsar, SIC&ZPS, etc). Fields of intervention are the **integrated planning of coast-maritime space, governance and management of conflicts between different uses, recovery and valorisation of natural areas, developing of integrated tourist offers and deseasonalization of tourist fluxes.**

WP4 has two main specific objectives:

- **Define and test training tools for implementing sustainable tourism** and for sensitizing local administrators / tourism operators. (Output 4.1);
- **Formulate local Action Plans and implement actions for sustainable tourism** in the Pilot Areas, with the participation of main stakeholders and local coastal communities (Output 4.2);

WP4' results and practice experiences on the field, constitute the basis of good practices contribution to the "Transferability Plans" at pilot areas and regional scale (WP5).

WP4 starts on month 02-2018 and end on month 05-2019 **and represents the Module 2 "Testing" of CO-EVOLVE, according to the modular structure of Interreg MED projects.**

3. The strategic planning of Pilot area

The strategic planning process guides development in the direction of those strategic priorities identified by all stakeholders through a consultative process. In particular, on coastal area, a tourism-driven strategic plan for sustainable development of coastal areas have to integrate main principles and goals provided by the Integrated Coastal Zone Management recommendations (UNEP/MAP/PAPRAC Guidelines for ICMZ, 2012) and the Sustainable Coastal tourism approach guidelines (UNEP, 2009).

The methodology proposed by deliverable 3.18.1 for a definition a strategic planning tourism based on a pilot area is organized in different consequential steps that constitutes an adaptive and cyclical process. It consists of 6 major phases, each of which includes key tasks and steps. The iterative process of tourism-driven strategic planning in coastal areas is reported in figure below.



4. *Brief description of the Pilot area*

The Cattolica pilot area is a typical urbanised coastal area with multipurpose harbor (fishery, shipyard, crafts production, pleasure boats Marina) and seaside resort structured with bath-house facilities.

The harbor of Cattolica coincides, it is in the main canal, with the Tavollo river terminal stretch that flows inside the inhabited areas of Cattolica and Gabicce Mare;

The harbor is classified as being of regional importance in accordance with the integrated regional transport plan pursuant to art. 3 of the Regional Law of 1 December 1979 n. 45;

The harbor for years has been subject to landfill due to Tavollo creek transport, and of the harbor mouth, from the sea solid transport, which, in addition to endangering the activities related to fishing and local shipping, has led to a decrease of tourist's attractiveness of the harbor and of the seaside area, difficulties and crisis in human activities reflecting on local economy and employment.



Figure 1 Pilot Area 2 A

5. *Planning SET-UP in the pilot area*

The main aim of this phase, that can be considered the most important pre-planning phase, is to create the needed bases for the subsequent implementation of the whole planning process.

THE DEFINITION OF THE WORKING TEAM.

1. Monica Guida (Emilia-Romagna Region)
2. Sabrina Franceschini (Emilia-Romagna Region)
3. Roberto Montanari (Emilia-Romagna Region)
4. Christian Marasmi (Emilia-Romagna Region)
5. Christian Morolli (ARST e PC (Emilia-Romagna Region)
6. Luciano Giuffrida – (Emilia-Romagna Region)
7. Carlo Albertazzi (Emilia-Romagna Region)
8. Davide Lombardelli (Regional Civil Protection of Area Romagna, Rimini (Public)
9. Giovanni Paganelli, (Regional Civil Protection of Area Romagna, Rimini (Public)

10. Nicoletta Olivieri, Municipality of Cattolica
11. Fausto Battistel (Municipality of Cattolica)
12. Davide Varotti, (Municipality of Cattolica)
13. Silvia Giustini (Municipality of Cattolica)
14. Raffaella Boga (Municipality of Cattolica)
15. Fausto Antonino Battistel (Municipality of Cattolica)
16. Vittoria Prioli (Municipality of Cattolica)
17. Francesco Stramigioli (Municipality of Gabicce Mare)
18. Michele Bonini (Municipality of Gabicce Mare)
19. Davide Lombardelli (ARPA)
20. Giovanni Paganelli (ARPA)
21. Cesare Sacconi (Bologna University)
22. Marco Pellegrini (Bologna University)
23. Gianfranco Malaisi (Marina of Cattolica (Private))
24. Andrea Terenzi (President of AIA Cattolica) (Private association)
25. Odoardo Gessi (CNA Cattolica), Private SME association
26. Manilo Amaducci (CNA Cattolica), Private SME association
27. Antonio Morricchi (Fishing lab)
28. Leonardo Marotta (Fondazione Cetacea)
29. Cesarino Romani (Fondazione Cetacea)
30. Alessandro Costa (Municipality of Cattolica)
31. Pier Paolo Poggi (Cantiere Navale Gam, Shipyard company)
32. Vincenzo Morreale (Capitaneria di Porto, Port authority)
33. Michele Bonini (Municipality of Gabicce Mare)
34. Nicola Martelli (Marina of Cattolica (Private))
35. Maurizio Carli (San Marco Snc, Shipyard company)
36. Stefano Cecchini (Casa del Pescatore, Fisherman Association)
37. Nicola Tontini (Casa del Pescatore, Fisherman Association)
38. Riccardo Arcieri (Cantiere Navale Gam, Shipyard company)
39. Felice Prioli (Circolo Nautico Cattolica, private association)
40. Renzo Sparacca (Ristorante Samanà, private restaurateur)
41. Massimo Cavalieri (AIA Cattolica) (private association)
42. Giuseppe Giovannini (Brand expert and graphic designer)
43. Andrea Giovagnoni (graphic designer)
44. Mauro Villa (Circolo Nautico Cattolica, private association)
45. Nicolo Ubalducci (Retailer and shop owner).
46. Paolo Martinez (Futour) External expert
47. Ana Maria Solis(Futour) External expert
48. Monica Paoli (Futour) External expert

THE PROCESS THAT LED TO THE IDENTIFICATION OF STAKEHOLDERS AND THE METHODOLOGY FORESEEN FOR THE PARTICIPATORY PROCESS

The identification of stakeholders for the pilot areas has been based on previous need assessment of RER technical staff that led to the inclusion of the areas within the Co-Evolve project and to the choice

of possible remedial small-scale investments (SSI). The SSI's have become the trigger and expedient for the participatory process and the application of the Innovation Camp methodology.

The method of the CO-EVOLVE participatory process

The method proposed for the participatory process of CO-EVOLVE adopts and further strengthens the multi-level participatory methods used with great effectiveness also in other processes involving core stakeholders carried out by Emilia-Romagna Region.

The effectiveness of participatory processes depends on the engagement and commitment of the stakeholders and on the ability to connect the processes to concrete social, economic and environmental challenges that provide a capacity to analyse the context, propose ideas, solutions and make decisions. These should be sustainable from an economic, social and environmental point of view, and scalable, that is, also replicable by the CO-EVOLVE project in other contexts providing a positive influence and recommendations for the implementation of ERDF and European plans and programs.

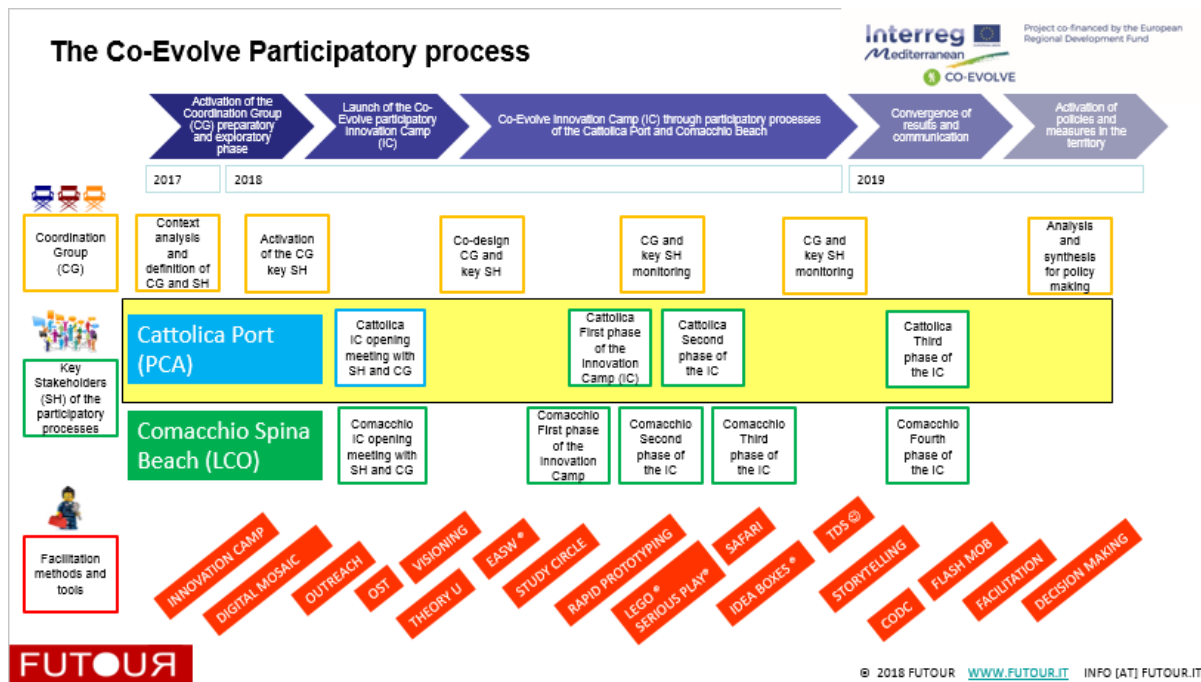
The main phases of the CO-EVOLVE participatory process

The diagram below describes the integrated participatory process of CO-EVOLVE:

- The main phases of the CO-EVOLVE participatory process
- Key actors in the participatory process and roles
- The methods adopted in internal participatory meetings and on the territory
- The internal participatory methods and on the territory of the CO-EVOLVE project

As can be seen in the diagram below the CO-EVOLVE process adopted and strengthened an integrated multilevel approach including the RER, local institutions and local stakeholders. To do this, a Coordination Group (CG) was set up to manage the overall process, a Control Room and the participatory process in the pilot area of the Port of Cattolica. The entire path is accompanied by the FUTOUR facilitation team by using facilitation techniques and methodologies for each phase of the participated process. The following table describes how these constituent elements are divided into the five phases of the path:

1. Activation, Coordination Group, Control Room, preliminary and cognitive phase
2. Launch of the participated Innovation Camp (IC) CO-EVOLVE
3. Innovation Camp (IC) CO-EVOLVE through the participatory process of the Pilot areas
4. Convergence of results and communication of the Innovation Camp
5. Activation of policies and measures on the territory in the Pilot Areas



The governance of the participatory process

The CO-EVOLVE process draws its energy and direction from the vast experience made by the public officials in the governance of participatory processes in Emilia-Romagna and foresees an incremental impact in the sustainable management of coastal environmental resources through the involvement and activation of local key actors (stakeholder - SH)

The path includes five key functions:

1. Restricted Coordination Group (CG)
2. The control room/ Coordination Board (CR)(CB)
3. Key Stakeholders (SH) of the participatory process
4. The facilitation of FUTOUR

The Restricted Coordination Group (CG) | The CG is composed by the project leader of the RER, as a partner of the CO-EVOLVE project. It has the function of "meta-coordination" of the overall design, approval and realignment of the intervention strategy of the participatory process and can convene or consult the control room / Coordination Board (CB) to have a consensus on the strategies. In the initial phase the CG has had a function of analysis, briefing and sharing of methods, defining the stages, selecting the people to be involved in the control room and in design and implementation the participatory process of Cattolica (PCA) as well as in contributing to the definition of documents and guidelines for information in possession of the RER and necessary for the implementation of the policies and actions that will result from the participatory CO-EVOLVE process. The group includes:

- The Municipality of Cattolica (Environment, State property office, Tourism)
- Regional Administration Technical Services (Soil and Coast Defence, ST Agency, Romagna Area Service, Tourism and Commerce, Water Protection, Communication and Participation)

- Collaboration of the University of Bologna, Department of Industrial Engineering



The control room/ Extended Coordination Board (CB) |

The control room is composed of the main regional actors and local institutions that promote, plan, coordinate and manage the participatory process of Cattolica (PCA) as well as the project's GC. It has the function of organizing and managing the participatory process of CO-EVOLVE (PCA) and defining the objectives and expected results of each activity. The control room directs, guides and simulates the PCA process with phases of testing and programming of the activities foreseen in the facilitated workshops with participatory techniques and methods. The control room also indicates the content experts (the so-called "Dream Team") who before, during and after the participatory workshops, analyses and summarizes the results on the technical contents (economic, environmental and social aspects of the project) to make them consistent with the objectives of CO-EVOLVE project.

Key Stakeholder (SH) of the participatory process of the) Pilot Areas

The participatory process follows a methodology that provides for incremental collective meetings in which the individual cognitive framework is shared and enriched by all participants as they reflect on the weaknesses and opportunities, valuing all the best previous experiences and activities experiences carried out in the respective areas. This path is also an opportunity to create a mechanism of communication, listening, learning and mutual coaching among the various stakeholders and is structured as an open and inclusive place for learning, exchanging experiences, sharing and mutual support. The main method that is used is the Innovation Camp.

The pilot area of Cattolica has envisaged the following main activities:

- Three preparatory meetings with the Coordination Board and a working meeting with the Mayor.
- A field visit to define the challenges and areas of work.
- A public launch and open meeting
- Three interactive workshops based on the innovation camp
- A study visit at the University of Bologna with all the key stakeholders to see how the small scale investment ejectors work.

The Innovation Camp method in the participatory process of CO-EVOLVE

The Innovation Camp method was used to support the activation and the facilitation of the participatory process, combined with other methods and tools.

Dedicated methodologies are highly recommended to mobilise the collaboration of quadruple helix actors (i.e. government, academia, business and civil society) in virtuous cycles. The original methodology – called ACSI, Aalto Camp for Societal Innovation – was co-developed by Finland's Aalto University and the New Club of Paris in the period 2009-2012. Since 2010, Camps based on this

methodology have been run 22 times, in different forms, in diverse countries in Europe, as well as in South Africa and Japan. In recent years, members of the New Club of Paris and the International Initiatives for Societal Innovation (I2SI) have taken the lead on developing the methodology further. The Joint Research Centre of the European Commission (JRC-EC) – through its Smart Specialisation Platform (S3P) and in the context of a cooperation agreement with the Committee of the Regions (CoR) – has been testing the use of the methodology for territorial innovation and development since 2016, and has adapted the methodology to this purpose.

The IC structure is the basis for the activation and structuring of the participatory path for the Pilot Areas of Cattolica. By starting from shared challenges and objectives, new prototypes of actions, strategies and policies can be activated.

The extended IC of CO-EVOLVE is structured over a period of several months and includes three main phases:

- **phase 1:** before the IC, preparatory meetings for identification of the thematic challenges to be analysed during the IC, selection of the "owners" of the challenges and better definition of the challenges with them, choice of the participants (the stakeholders and the experts who they can help meet the challenges and solve them). This preparatory phase consists of preliminary meetings to share and align the control room and the participatory process for the Pilot Area. This setting phase in the project was carried out between December 2017 and March 2018.
- **Phase 2:** carry out the field of innovation also with a Canvas Model facing, for each challenge, with the support of facilitators, the following activities:
 - Explore challenges and critical issues
 - Explore opportunities (deepen understanding)
 - Generate and enrich ideas
 - Prototyping of promising ideas
 - Think forward (reflect, renew, plan, present)

This second phase is instead represented by the participatory meetings of Cattolica, in which the challenges and opportunities generated and prototyped ideas have been reformulated and explored and the action plan to be presented to the enlarged community is structured and implemented through the CO-EVOLVE project.
- **Phase 3:** After the Innovation Camp, the implementation phase continues in the place, organization and network where the problems and challenges have been identified. In the following months, the prototypes of promising ideas are tested and improved and can be developed by the respective organizations with all the contributions of the participants in the field. This phase of implementation, and of action research, serves both to activate and implement the projects emerging from the participatory path and to monitor the progress and structure the experiences in the Action Plan envisaged by the CO-EVOLVE project for the Pilot Area of Cattolica.

Co-Evolve Participatory Lab Co-designing the sustainable port of Cattolica and Gabicce



FUTOUR

© 2018 FUTOUR WWW.FUTOUR.IT INFO [AT] FUTOUR.IT

During the Innovation Camp, participants use a canvas that accompanies the innovations and social, economic and environmental proposals that emerge from the discussions in the interactive laboratories. Participants of the various working groups are guided into exploring the various dimensions and aspects of the theme they are dealing with, according to the phases of the Canvas. This tool helps both to give a structure to the ideas and to follow the creative steps needed to find creative solutions to certain problems and to see the challenges from alternative points of view.

i2Si Societal Innovation Canvas Model			Project Name:		Participants:		
Explore Challenge Context Opportunities The Challenge, its owner and supporters Learning (capture insights)			Ideate & Design Deepen Understanding What if? What could work? Who benefits? Why?		Build Prototype Basic concepts? Big Picture? Look and feel?		
Desired Outcomes / User Benefits Desired outcomes & user benefits after it is successfully realized			Key message Your elevator pitch with the value proposition		Constraints Identify limits and conditions that influence realization/delivery		
Stakeholders & Resources Stakeholders / 3 rd Parties Who is needed to realize the proposal? Who must buy-in? What do they need? How do they interact? Resources			Risks, Assumptions & the Unknown Risks What might go wrong? Why? Assumptions What assumptions is this proposal based on?		Roadmap of Activities Concrete task & actions needed for creating results after the Camp 6 weeks 6 months 6 years Who? Where? Milestones? Effect?		

FUTOUR © 2017 FUTOUR WWW.FUTOUR.IT INFO [AT] FUTOUR.IT

Pilot Area of Cattolica

Preparation of the participatory process of the Pilot Area of Cattolica

During the activation phase of the project, from December 2017 to May 2018, remote meetings were held in the presence of the RER, FUTOUR representatives and the key stakeholders of the project for the co-planning of the participatory process which also served to outline the main challenges and a future vision for the pilot area.

Calendar of the participatory path of the Pilot Area of Cattolica.

Meeting	date and place
Interactive coordination workshop to brainstorm on the challenges and themes of the participatory process.	21st December 2017, Bologna, Emilia-Romagna Region Headquarters - 10:00-13:30
Interactive coordination workshop to brainstorm on the challenges and themes of the participatory process.	16th January 2018, Bologna, Italy, Emilia-Romagna Region Headquarters 10:00-13:30
Interactive workshop to plan and coordinate the public meeting to launch the Co-Evolve participatory process. Visit of the Pilot area, the Ferretti Factory, The GAM yard and Ferretti Yacht factory.	8th of February 2018, Casa del Pescatore, Cattolica, 10:00-13:30
Interactive training session on participatory methods for the Co-Evolve Partnership	7 th of March 2018, Emilia-Romagna Region headquarters, Bologna
Interactive workshop to launch the Co-Evolve participatory process and present the Innovation Camp.	9th of March 2018, Casa del Pescatore, Cattolica, 10:00-13:30

First participatory workshop: Co- Evolve Innovation Camp (Exploring the challenges and opportunities)	22nd March 2018, Casa del Pescatore, Cattolica, 15:00- 18:30
Second participatory workshop: Co- Evolve Innovation Camp (Prototypes of ideas and solution).	11th of April 2018, Casa del Pescatore, Cattolica, 10:00- 13:30
Visit to the prototype ejector test site that will be used to dredge the Cattolica canal for the accessibility of the port.	2nd May 2018. Mechanical lab of the Bologna University, 10.30- 14.00
Third participatory workshop: Co- Evolve Innovation Camp (Towards the action plan for the sustainable port of Cattolica).	11th of May 2018, Casa del Pescatore, Cattolica, 10:00- 13:30
Installation of the ejector system working in temporary mode.	Beginning of August, port of Cattolica).
Inspection at the slipway and launch area in Cattolica's Port	7th September, Port of Cattolica, 10.30-12,00
On-site visit of the certifying body for European CE standard mark on the system	19th September, Port of Cattolica, 10.30-12,00
Arrival of stainless steel frames to fix the submerged pumps	24th September, Port of Cattolica,
Inspection at the slipway and launch area in Cattolica's Port	26th October, Port of Cattolica, 9,30-10,15
Forth participatory workshop: Co- Evolve Innovation Camp (Towards the action plan for the sustainable port of Cattolica).	26th of October 2018, Casa del Pescatore, Cattolica, 10:30- 13:30

INPUTS/SUGGESTIONS ACHIEVED FOR THE LOCAL ACTION PLANS

Meetings of the Participatory Process

All the Cattolica meetings were held at the headquarters of the Casa del Pescatore, the cooperative of the fishermen. During the meeting to launch the Participatory Path of the "Port Pilot Area of Cattolica", the **Sustainable Future Vision of the Area** was defined.

Through a shared project and a sustainable vision, the conditions were created to address the issue of accessibility, navigability and usability of the port to ensure the continuation of socio-economic activities. Technical solutions and the resources needed to solve the sedimentation problem and the costs of dredging that are currently supported primarily by the Region will be found.

The sustainable future vision of the port is based on the idea of creating among the stakeholders a **port contract** that, through a bottom-up work from, allows to obtain the certification of a *sustainable, green / blue port*. In this strategic and shared vision of sustainable port, the premises are also created, for a process to search public and private resources (fund raising, crowdfunding, project financing), for future projects and private public partnerships. Consequently, through a certification and / o recognized brands, it can allow the port attract other services, functions, users and consumers (e.g. in the case of zero km fishery products) interested in the sustainable port model. These elements become fundamental with a view to accountability.

The future vision of Cattolica's harbour is that of a port that is a global point of reference for other similar harbours, marinas and ports.

In Cattolica's port eco-sustainable solutions and innovations are prototyped on a technical and the societal level, indicating the way to a sustainable future, respecting and going beyond all the national rules and regulations by setting new and improved standards. The port of Cattolica is the place where the community periodically designs the route and vision to develop and manage the area in a sustainable and ecological way. It establishes action plans and indicators to monitor the continuous improvement on the parameters for a sustainable management of the port, including, for example: separate waste collection, quality and integration of services, short value chains (e.g. slow food or similar), pollution reduction, ecotourism, cleanliness and decorum, low energy consumption, economic sustainability (e.g. fishing, haulage, leisure craft, shipbuilding), research and technological innovation, strengthening of social capital, collaboration and fostering social innovations, etc.

Therefore, to reach a shared vision it becomes essential to find and use resources in a sustainable way also for use and access to the port.

At the launch meeting, the participants worked on a retrospective view of the sustainability of the port and the Area of Cattolica, answering the question: **what has been done until the present to enhance the sustainability of the port and the area?** These elements are consistent with the first vision emerged and can enrich it to contribute to the definition of shared objectives. We have identified content and key people to be involved in addressing three topics (challenges) within the COEVOLVE Project:

1. **Social, economic, environmental and cultural sustainability of the port area**
2. **Image, brand, port brand**
3. **Navigability, safety and seabed of the port**

In the public launch meeting, facilitation and brainstorming techniques were used with the Digital Mosaic of FUTOUR and the following ideas and proposals emerged for each challenge:

1. "Social, economic, environmental and cultural sustainability of the area of port "

Contents:

- Management of industrial, civil, shipbuilding, fishing, pleasure and residence waste.
- Teaching/training about various topics on how to differentiate waste.
- Involvement of Citizens Committees (Porto Violina).
- A common vision that is shared and implemented by all public-private entities.
- Cutterists, fishing tourism and passenger transport activities should be involved.
- Involvement of the local Maritime Museum.
- Representative of hoteliers.
- Specialization in waste differentiation is a strong factor in social, economic, cultural and environmental growth.
- Energy efficiency of companies, warehouses, commercial activities.

Actors to involve: A representative of HERA (consortium of waste management) together with the municipality's representative in charge of the new waste plan for the specific issues regarding Waste management in the Port Area. Moreover, the Captain of the Port of Rimini, Citizens'

Committees (Porto Violina), Cutterists, Cetacea Foundation, Legambiente, WWF should to be involved.

2. “Image, brand, brand of port”

Contents:

- Port area that integrates different functions, attractiveness, and the brand can be on this theme of integration / sustainability, training.
- Use of primary fish production for tourism promotion.
- Brand: The Port of Cattolica.
- Use of product brands to enhance the territory.
- Involving workers in the field of communications and marketing, both public and private.
- Promote Cattolica as Punta Ala in 1997 after Luna Rossa’s America’s Cup venue.
- Promote international events.
- Promote a television event linked to local productions.

Actors to involve: sector experts and Marketing experts

3. “ Navigability, safety and seabed of the port”

Contents:

- Feasibility project checked the demonstration in towage/ launching, in order to equip the port of Cattolica with an overall sediment handling system to manage the seabed with ejector devices. The feasibility study will be elaborated with the support of the University of Bologna, DIN engineering department and will be submitted to national or European funding
- Involvement of technical figures in specific sectors: Engineers, technical officers of the Public Administrations
- Update the cognitive framework of the river Tavollo to define the best solutions

Actors to involve: Commander of the port authority, fishermen's cooperative, storage sites, shipbuilding shipyards (See Carlo Albertazzi protocol)

The following subjects have been identified to carry the challenge flag for each topic:

1. **“Social, economic, environmental and cultural sustainability of the area of port ”:** Municipality of Cattolica
1. **“Image, brand, brand of port”:** Davide Varotti (Municipality of Cattolica) e Gianfranco Malaisi (Marina of Cattolica S.r.l.)
2. **“ Navigability, safety and seabed of the port”:** Stefano Cecchini and Nicola Tontini (Casa del Pescatore)

The first and the second workshop, of the participatory process to relaunch of the port of Cattolica, took place on March 22nd and April 11th, at the “Casa del Pescatore”. During the meetings, the INNOVATION CAMP method was used: from the challenges to the prototypes and solutions.

During the first workshop, the participants were divided into three thematic groups:

1. Social, economic, environmental and cultural sustainability of the port area.
2. Image, brand, brand of the area linked to the port.

3. Navigability, safety and management of the seabed of port area.

During the first part of the workshop, a collective brainstorming was carried out within each group, through which the participants identified various areas of intervention. The participants explored the challenges, identifying critical issues and opportunities, deepening their understanding and finally generating ideas and proposals.

A summary of the ideas and proposal of the groups during the first and second workshops are reported in the follow templates:

1. Working group “Social, economic, environmental and cultural sustainability of the port area”

Explore (1)

Challenge	Context	Opportunity
Making fishing sustainable through: <ul style="list-style-type: none"> • Greater craftsmanship, • Focus on quality rather than quantity, • Differentiate waste both for commercial and residential activities • Better usability of the area 	The importance of training as a virtuous mechanism for the sustainability and to make the Port of Cattolica a virtuous port.	<ul style="list-style-type: none"> • Enhance Cattolica's clam • Fisherman award for the collection and conferment of differentiable waste. • Ecological footprint Map of the area as a benchmark for existing and future activities.
Learning <ul style="list-style-type: none"> • Virtuous port through energy supply from renewable sources for public and private activities • Limited traffic area in the port area in order to make the area more attractive through the vocation of the air in the field of receptivity and catering and through urban furniture. • Educational port with training projects to raise greater awareness. 		

Ideate & design (2)

<ul style="list-style-type: none"> • <i>Environment</i>: Hangar: only a channel port? Canal and basin? Ecological footprint as a criterion. differentiated waste management • <i>Economy</i>: Enhance the fishing product • <i>Urban planning</i>: urban design, area vocation: catering / hospitality

Build “the prototype” (3)

.....

2. Working group: “Image, brand, port brand”

Explore (1)

Challenge <ul style="list-style-type: none"> Marina port brand 	Context <p>"Living" the port: visits the shipyard and to the marina</p>	Opportunity <ul style="list-style-type: none"> Seabed accessibility Clam night party "Cattolica all the year" "a Sailing day" "Biologist for a day ..."
Learning <ul style="list-style-type: none"> Party together Best tourist port on the Adriatic 		

Ideate & design (2)

- living the port / and the port experiences
- Visit Port activities
- Seafaring culture
- Teach how to buy fish / food / how to cook them
- Same port, same sea (uportèl)
- GAL sea, funds for kitchens, fishmonger
- Flag
- develop a Public / private partnerships for better use of resources and funds

Deepen understanding

.....

Build “the prototype ” (3)

- Back to the future (see fish protein poster at the "fisherman's house")
- Artemisia
- From fishing to peach
- Port food
- Brand (y) port
- Deep city basin
- Port tour
- Cinema at the sea "I'll take you to the cinema"
- Involve Influencer, YouTube, youport to give visibility to the port
- Sailor chef: tricks, recipes, "chefitano"

In the second workshop the groups "Social, economic, environmental and cultural sustainability of the port area" and "Image, brand of port area" have merged into a single group; the participants worked to identify the challenges. After a first brainstorming, the project proposals were shared.

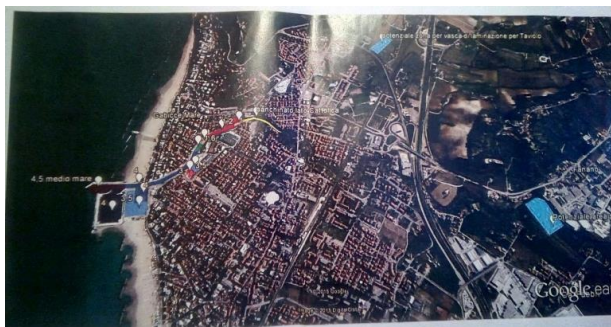
From the proposals the challenges emerged that are reported in the following table:

Summary of the challenges identified by the group:

Challenge	Circular Economy and separation of waste	Renewable energies	Education, awareness, urban planning, pedestrianisations and bike lanes.
Challenge Holder	There were no candidates	There were no candidates	There were no candidates
Participants	There were no candidates	There were no candidates	There were no candidates
Description	<ul style="list-style-type: none"> · I bring the waste into port: a system of waste differentiation already while at sea that allows both the fishermen to recover the waste, and the ships to differentiate. · Recycling festival with urban installations created by the recovery of waste through the involvement of groups like Mutoid or Soart. · Hera (the regional waste management company) was thought of as possible Stakeholder to highlight events through visibility during the waste week 	<ul style="list-style-type: none"> · Find a green supplier for lighting and other electrical supplies throughout the port area. · Installation of a photovoltaic shelter at the port (European renewable energy week) · For the theme of training and awareness we talked about the Decalogue of sustainability and training even if no concrete projects were proposed and the group focused more on the availability of economic resources by proposing crowdfunding and FSE and POR-ERDF 	<ul style="list-style-type: none"> · "The island in the port": a project to create a car free zone in the port · Energy steps: through the walk energy is produced, then doubled as in addition to enjoying the port area, it also produces energy. In this regard, the involvement of MIT (Carlo Ratti) was considered interesting <p>It was finally reported that Cattolica is the only Paralympic sailing center.</p>

3. Working group: “ Navigability, safety and seabed of the port”

Explore (1)



Maps and photo of Cattolica Port Area-Courtesy of Stefano Cecchini

Challenge	Context	Opportunities
<p>Stefano's Dream</p> <ul style="list-style-type: none"> Construction of open lobby and fish market in vintage-looking brick and tiles, for both the fishermen and cultural activities. This should be at the main entrance quay of the port entrance that is also the entrance to the fishermen internal harbour. Harmonised reduction of the bathymetry and canal depth in the area of the docks and in Gabicce mare. <p>Gianfranco Malaisi's proposal:</p> <ul style="list-style-type: none"> The Cattolica Port case study will be presented at the 	<ul style="list-style-type: none"> Periodical silt removal and management of the Tavollo riverbed. Internal dock protection with specific barrages to avoid silting in case of river flood. Protection of the port entrance (quay equipment) Continuous monitoring of the riverbed. Recovery of resources for the management of the port seabed with planned solutions. 	<ul style="list-style-type: none"> Dredging reduction. Added value with respect to neighbouring harbours. Safety of navigation. Organisation of nautical events all year around. Fishing activities. Increasing the safety for the fishing fleet and keeping the maximum employment levels. Strong potential for further growth.

Confindustria industry confederation UCINA NAUTICA and at the Remtech conference in Ferrara in September 2018 as an exemplary case study in new dredging management models.		
Learnings <ul style="list-style-type: none"> • Continuous monitoring of the seabed and sediments and searching funds. • Simplification of the dredging procedures also to ensure the accessibility of to the port in case the safety of navigation is compromised. • Including the contributions of Gabicce. • Changing the name of the port. • Searching for innovative solutions. • If the harbour dredging become economically and environmentally unsustainable, the port functionality is reduced. 		

Ideate & design (2) <ul style="list-style-type: none"> • Full usability of port facilities that could guarantee future economic and social developments in the area. • Increased port berths. • Increase in the nautical sector (shipyards, restaurants, shops) with related jobs • Increase of Social economic activities. • Increase involvement of citizens, tourists and traders. • Port area with different types of economic activities, a promiscuous area that would benefit from the induced activity of tourism, compared to mainly economic-productive activities. Deepen understanding <ul style="list-style-type: none"> • Environmental studies of the sediment deposition mechanism on the seabed. • Mapping the excavation area ex dm 173/2016 of the port of Cattolica to program the dredging
--

Build “the prototype ” (3)

- Promote a consortium between the Regions of Le Marche and Emilia-Romagna, the Municipalities involved, the economic players to carry out the management / monitoring of the port and the seabed.
- Reflect to define a contract by 4-8 years including a tender with a dredging company and engineering study for the control and study of the area.
- Involve the Municipalities of Riccione, Cattolica and Gabicce Mare.
- Public and private protocol.
- Do not form sediments, do not let them stop and if they stop, remove them.

During the second Innovation Camp workshop, Professor Cesare Sacconi (University of Bologna) made a technical illustration of the area of the Port of Cattolica. Moreover, he illustrated the problems and characteristics of the seabed as well as the mechanisms of deposition of sediments on the seabed. He then described and ejector devices that could be used for the removal of sediments, preventing them from accumulating on the seabed. In this regard, Professor Sacconi made himself available to organize a guided tour of the Engineering Faculty to visit the test pools and explain to the participants the prototype of the ejectors for the removal of sediments that could be the solution for the Port area of Cattolica. The visit was planned for the 2nd of May. After the illustration by Prof. Sacconi, the proposals of the challenges that the working group would like to develop were shared. The challenges, the flag-bearing challenge owners and the participants are described in the following table.

Summary of the challenges identified by the group:

Challenge	Feasibility plan for management of the seabed	Public-Private Protocol for management / harbour monitoring / seabed
Challenge Holder	Stefano Cecchini, Casa del Pescatore	Gianfranco Malaisi (Marina di Cattolica)
Participants	Emilia-Romagna Region, ARP AE, Municipality of Cattolica, University of Bologna, Felice Prioli (Circolo Nautico di Cattolica).	Carlo Albertazzi (Emilia-Romagna Region), ARP AE, Municipality of Cattolica, Municipality of Gabicce, University of Bologna, Riccardo Arcieri (GAM Shipyard), Stefano Cecchini (Casa del Pescatore), PierPaolo Poggi (GAM Shipyard)

Description	The feasibility plan for a sustainable management of the seabed has to guarantee the navigability, safety and management of the seabed of the Cattolica Port area. The feasibility plan has to identify actions to be implemented for the installation of the dipositive (ejectors) that allow the removal of sediments and actions necessary to monitor and perform continuous checks. The Feasibility Plan should also include an action for finding funds in order to implement a more integrated solution in addition to installing the ejectors.	The public-private protocol should be based on the agreement elaborated by Carlo Albertazzi and should be integrated with actions that improve the knowledge of the seabed, environmental studies on the sediment deposition mechanism also taking into consideration the former decree 173/2016 of the port of Cattolica regarding the dredging program. The protocol should also include the maintenance and periodic cleaning of the river Tavollo, as well as the protection of the docks with devices and barraging works.
-------------	---	---

The third workshop, of the Co-Evolve participatory path for the relaunch of the port of Cattolica, was held on the 11th of May 2018, at the Casa del Pescatore in Cattolica.

The meeting was opened with welcome greetings from Mariano Gennari, Mayor of the Municipality of Cattolica. The Mayor reiterated the importance of the Project for the productive and tourist eco-sustainability of the Cattolica Port area.

The introductory technical session was illustrated by Roberto Montanari of the Emilia-Romagna Region who updated the Mayor and all participants on the work in progress within the Co-Evolve project.

Sabrina Franceschini of the Emilia-Romagna Region, presented the “Co-Evolve Piazza” created on the open online collaborative ioPartecipo + Platform.

The Co-Evolve Piazza was opened to facilitate online participation, inform and engage stakeholders on the pilot Co-Evolve actions for the formulation of recovery plans for sustainable and responsible tourism and for the valorisation of the pilot areas of the Municipalities of Cattolica and Comacchio. It was also set up to participate in the discussions that are held in participatory workshops at the territorial level. In this participatory space it is possible find various useful tools such as: a Glossary, Documents, Notices, Events and Surveys. The ioPartecipo + participation platform offers two opportunities:

1. for informational purposes only,
2. to participate, leaving one's contribution, after a registration (even in an autonomous form).
The registration and identification system is simple: it is possible to register by using one's own social networks account, for example: .Facebook, Gmail, Linkedin, Twitter, or to register with Federa, the federated authentication system of Emilia-Romagna.

Marco Pellegrini, Researcher of Department of Industrial Engineering, University of Bologna, then presented the visit to the test tanks of ejector devices at the University of Bologna Mechanical Labs that took place on the 2nd of May. The visit to test the tanks made it possible for all the stakeholders to know the "best available technologies" in the sector of the maintenance and remodeling of the

seabed in port areas: devices with ejectors similar to those will be installed in Cattolica with the Co-Evolve project through the small-scale investment.

Paolo Martinez of FUTOUR, made a synthesis of the participatory activities carried out during the first and the second Innovation Camp workshops of the participatory process. These represent the basis for the joint definition of an Action Plan for the pilot area of the Port of Cattolica. In addition, the action plan emerging from the Co-Evolve participatory process should consider the desired results / benefits identified by the participating stakeholders, the actors that have to be involved and the resources necessary for the challenges identified during the first and second laboratories.

The challenges on which the groups worked for the preparation of the Action Plan are:

- Challenge N ° 1: Feasibility plan for the management of the seabed
- Challenge N ° 2: Public-Private Protocol management / monitoring port / seabed
- Challenge N ° 3: Circular economy and waste differentiation
- Challenge N ° 4: Renewable energy
- Challenge N ° 5: Didactics, Urban Planning, Pedestrianization and Cycle Paths

As illustrated in the previous meetings, the Innovation Camp leads to the solution of problems through the analysis of problems, their reformulation, the elaboration of prototypes of solutions and the subsequent involvement of all the participants. The ideas and projects that receive most support from the stakeholders are the ones most likely to transform an idea in a post-it into an action and long term sustainable outcome.

So for instance from the first to the second workshop the challenges number 3, 4 and 5 were merged into one group on Sustainable development of the Port area, including most of the topics that were in the previous challenges.

During the workshop of the 11th of May participants were therefore divided into 2 thematic groups:

1. Navigability, safety and management of the seabed
2. Sustainability, image, brand, brand of the Port area

The Working Group "Navigability, safety and management of the seabed" has faced the first two challenges:

- Challenge N ° 1: Feasibility plan for the management of the seabed
- Challenge N ° 2: Public-Private Protocol management / monitoring port / seabed

For each of these challenges, two Action Plan proposals have been drawn up.

The group "Sustainability, image, brand of the Port area" has tackled the last three challenges, developing a single action plan proposal.

- Challenge N ° 3: Circular economy and waste differentiation
- Challenge N ° 4: Renewable energy
- Challenge N ° 5: Didactics, Urban Planning, Pedestrianization and Cycle Paths

This second group concentrated on the issue of waste differentiation but will require the participation of more institutional key players to move forward.

The first part of each group work focused on individual brainstorming for ideas to give more substance, think of what, how, when and who should bring them forward. Then each one shared their ideas to come up with a collective list of actions that could be transformed into an action plan. Participants proceeded to elaborate the proposal of the action plan using the following template:

Title of the Action			
Activities (what)	How	When	Who

We hereby summarise the proposals of the Action Plan for the actions identified and selected by Cattolica's stakeholders.

Working group: Navigability, safety and management of the seabed.

Title of the Action: Public-private agreement for the implementation of the memorandum of understanding for the management of the port seabed.			
Identified critical factor: The absence of a technical representative of the Municipality of Cattolica			
Activities (What)	How	When	WHO
Improved and effective coordination between structures / bodies that involved in the port system that need to work together on a common strategy.	Promote meetings and conferences with interested bodies and structures through non-standard procedures.	Immediately, and especially in the next 15 days. The Monitoring Committee is convened every month.	<ul style="list-style-type: none">• ARPAE• Regione Emilia-Romagna services• Municipalities of Cattolica and Gabicce• UNIBO• Cattolica’s MARINA• Capitaneria di Porto• Ferretti Yacht Factory
Set up the Port System management Committee/Consortium	Creation of a consortium of managers, giving it legal personality. Marina and Municipalities can come forward for the creation of the Consortium		
Describe the project to institutions and structures	Establish a monitoring committee and a decision-making committee chaired by the Mayor	The Decision-making committee is convened three/four times a year	
Take the existing protocol as a basis for the statute	Specifically, actions and rates for the cleaning of the seabed are also established.	The protocol has a duration of 4 + 4 years.	
Port System Regulation.	Public meeting for the presentation of the public private agreement		

Title of the Action: Feasibility project for realization of an overall system for the remodeling and management of the seabed by using of ejectors

WHAT	HOW	WHEN	WHO
1. Define areas of responsibilities and intervention	Establish a working group to prepare the project <ul style="list-style-type: none"> • UNIBO • Emilia Romagna Region • Municipalities of Cattolica and Gabicce Mare • MARINA DI CATTOLICA • Casa del Pescatore • CANTIERE GAM 	September / October for preparation of the preliminary project	<ul style="list-style-type: none"> • UNIBO • Emilia Romagna Region • Municipalities of Cattolica and Gabicce Mare • MARINA DI CATTOLICA • Casa del Pescatore • CANTIERE GAM
2. Limit silt intake from the upstream river			
3. Maritime and river state demarcation			
4. Create an open project for future extensions and additions			
5. Preliminary dredging and recovery of material			
6. Implement an organized and continuous service to monitor the seabed in a unified way			
7. Identify areas subject to sediment deposit			
8. Identification of operating costs and persons in charge of maintenance			
9. Find sources of finance		By the end of 2018	
10. Writing the project (identification of installation points, feasibility of the ejector system, preliminary dredging activities)			
11. Management of ordinary and extraordinary		End of 2018	

maintenance after completion			
12. Define project funding mechanisms.			
13. Develop tourist walks along the river to expand the tourist interest			

Activities (What) - Title of the Action: Eco agreement for the port Identified critical element: The absence of a technical representative of the Municipality of Cattolica			
WHAT	HOW	WHEN	WHO
Strategic plan and map of shared needs Research funding for the Eco-Port	<ul style="list-style-type: none"> Know and share common sustainability needs Map of production factors and turnover Collaboration pacts Select working group priorities 	<ul style="list-style-type: none"> 4 months 1 months 5 months 	<ul style="list-style-type: none"> Casa del Pescatore (Fishermen cooperative) Ferretti yacht Associations Institutions Trade associations Business Citizens Tourists who adopt the port
Involvement: communicate common benefits (video)	<ul style="list-style-type: none"> Shared eco projects Map of funds: Europe/Region Banks Foundations Private Crowdfunding 		

After the plenary presentation of proposals for action plans by the speakers, Roberto Montanari suggested a period for the next meeting of the participatory process after the summer, in the first week of October, on a date that will be defined.

After the conclusion of the participatory workshop, in the afternoon of the 11th of May, an inspection was carried out at the area of the hauling and launching of the Port of Cattolica. The meeting aimed to assess not only the technical-operational coordination aspects, but also the safety coordination aspects during the planned installation operations of the plant. The inspection was attended by Trevi SpA, the contractor in charge of installing Cattolica's ejector's, and the University of Bologna, DIN department, which will coordinate the monitoring of the plant's operation in the twelve months following the installation

INSPECTION AT THE AREA OF SLIPWAY AND LAUNCH

During the first part of August 2018, the ejectors system was installed at the port of Cattolica working in a temporary mode. The system was completed on the last week of September when the stainless steel frames arrived for the final fixing of the submerged pumps. On 19th of September 2018, the visit of the certifying body for the CE mark certification of the system took place on-site. On the 7th of September the inspection of Cattolica's Port area of slipway and launch was performed, in order to:

- view the installed system and its operation;
- assess the results of the system in its first month of operation;
- define a date for the training day, organized by the Trevi company, for the management and maintenance of the system;
- communications on the monitoring methods developed by University of Bologna;

On 24th September, the stainless steel frames for fixing of the submerged pumps have arrived with the purpose of completing the procedure regarding the ejectors system. A further inspection was carried out on 26th October at the haulage basin of the port of Cattolica.

Forth participatory workshop

A Fourth participatory workshop of Co- Evolve Innovation Camp (Towards the action plan for the sustainable port of Cattolica), took place on 26th of October 2018 at the Casa del Pescatore, in order to present the state of advancement of the actions that define the Action Plan for the pilot area of Cattolica.

Before proceeding to the presentation of the progress of the actions, participants have answered a survey by using the FUTOUR Smart Polling for smartphones.

The survey questions were

What adjective evokes the participatory path "Catholic I bring you in the heart"?

- Futuristic
- Brilliant
- Dynamic
- Nice
- Participated
- Modern
- Emotion
- Ecological

Which organization do you represent?

Public Administration	55%
Companies	27%
University	9%
Other	9%

After the vote the owners of the challenges have presented the state of progress of actions

Title of the Action: Public-private agreement for the implementation of the memorandum of understanding for the management of the port seabed.

Carlo Albertazzi from Emilia-Romagna Region and Gianfranco Malaisi from Marina of Cattolica illustrated the development of the public-private agreement through a memorandum of understanding for the management of the seabed of the port. The agreement is intended as a coordination-tool with the presence of public and private actors, for the planning of the operation and management of the port system of the inter-regional port of Cattolica-Gabicce and in particular for maintaining the functionality of the seabed. It arises from the practical and experiential need of a single "body or organi" facilitating a coordinated action and synergy for the numerous public and private actors involved.

From a theoretical point of view, the agreement is inspired by the principle of the holistic vision characteristic of the Regional Integrated Coastal Zone Management Strategy - GZIC (RCD No. 645/2005). In this case, a medium-sized municipal / regional port, with highly promiscuous and interregional use, (recreational tourism, professional fishing, shipbuilding, identity and recreation for the city), identifies the location where the different stakeholders composed, providing the coordination activities that in the large national ports are among the tasks of the Port Authority, which however have dedicated Technical Offices, as opposed to the municipalities managing the ports.

The memorandum of understanding is exercised on the ambit of the port area of Cattolica, including an upper part which is part of the Tavollo torrent, which includes:

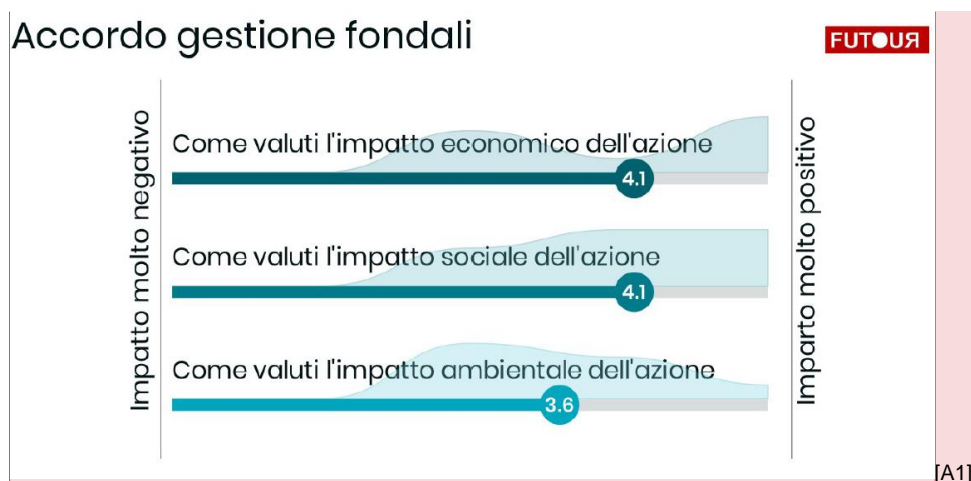
- entrance channel
- external pleasure dock, given in concession to the Società Marina di Cattolica
- fishing dock
- internal channel
- • internal dock of recreational boats (small Marina) given in concession to the Marina Piccola Company;
- operational area
- launch and launch basin with travel lift
- internal dock of recreational boats in Gabicce, given in concession to the Società Marina di Cattolica;
- canal from the fixed bridge (via Irma Bandiera) to the entrance of the Gabicce dock
- stretch of Tavollo torrent upstream of the entrance to the Gabicce dock, up to the hydraulic junction of the confluence of the Taviolo torrent;

For the maintenance of the seabed to the depths necessary for the current fleet with a maximum draft of 3.00 meters it is necessary to intervene structurally both with the completion of the works already planned and realized only partially, and with new works; furthermore, it is necessary to establish new

management planning methods that are more effective and able to respond promptly to the needs of the various port activities.

- Experimental dredging activities and maintenance of the seabed at strategic points
- Traditional dredging activities and overall management of the port
- Furthermore, the start of studies and planning for the following interventions:
- works to limit the causes of interruption from upstream,
- the construction of a small sea brush, to be positioned at the west of the entrance to the port

Following the presentation, all the participants gave their assessment of the action proposed and provided further indications for the implementation of the proposal using FUTOUR's Smart Polling for smartphones.



As indicated in the figure above, the Agreement for the management of the port seabed was assessed with a scale of 1 (very negative impact) to 5 (extremely positive impact) and the results were:

- Evaluation of the economic impact of the action: **4.1**
- Evaluation of the social impact of the action: **4.1**
- Evaluation of the environmental impact of the action: **3.6**

What can we do to implement the agreement and what are the necessary actors?

- Set-up a technical board of the Catholic municipality
- Breakdown of costs
- Establish guidelines and operational scheme for the action
- Keep the agreement open to allow other actors to join.
- The pressure of civil society, of Cattolica and Gabicce together, is fundamental
- Municipalities and Regions are the main actors, they must actively involve private actors and operators of the port area.
- Municipalities. Arpa, Region should work on the simplification of the administrative process required for obtaining authorizations.

- Stakeholders (fishermen and boat owners) planning interventions compatible with tourist activities.
- Local and regional administrators, control bodies (ARPAE, Port Authority), workers in the port area. The activities must be coordinated by a nominated subject (also external mediator).
- Managers and administrations.
- Regional coast defense service.
- Industry and economic players of the sector should have a key role.
- Involving actors and organisations in a constant action oriented dialogue.
- More sensitivity of institutions, municipalities and regions, involving the companies of the sector.

Title of the Action: Feasibility project for realization of an overall system for the remodelling and management of the seabed by using of ejectors

Cesare Sacconi and Marco Pellegrini of UNIBO presented the feasibility study for the construction of an overall system for the remodeling and management of the seabed with the use of ejectors that is being realized together with the company Trevi spa

The DIN-UNIBO and Trevi company participate as sub-contractor of the Emilia-Romagna Region to the project CO-EVOLVE «Promoting the co-evolution of human activities and natural system for the development of sustainable coastal and maritime tourism», of which the Region is a partner.

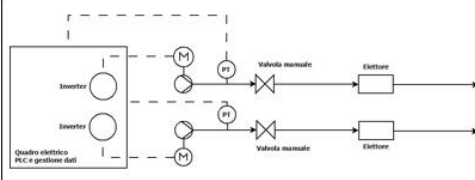
The project financed the construction of a demonstration plant installed at the GAM shipyard in Cattolica (Rimini). Unlike installations made in the past, the plant is not operating near the mouth of Porto, but inside the Porto Canale (i.e. torrent Tavollo). The sediment that the installation moves is mainly composed of silt and clay.

The first results [A2] are illustrated in the diagram below:

L'impianto dimostrativo – Porto di Cattolica

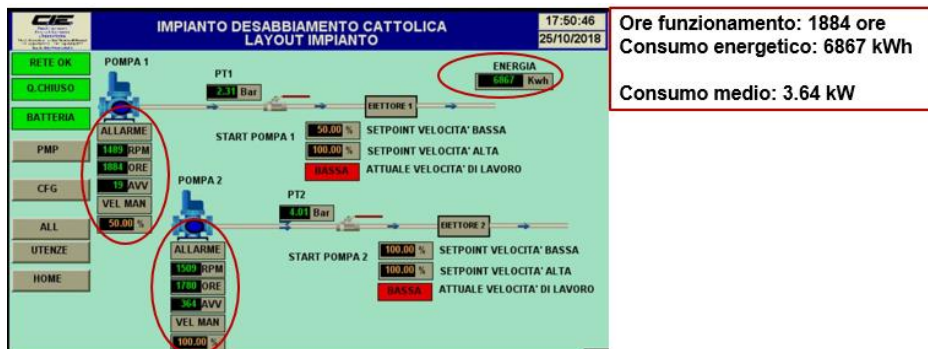


L'impianto è composto da due eiettori, ognuno alimentato con acqua in pressione da una pompa sommersa dedicata. La portata erogata è regolabile, anche da remoto, tramite inverter. E' altresì presente una misura di pressione alla mandata delle pompe. Il regime di funzionamento delle pompe è programmabile per fascia oraria.



[A3]

The installation started on the 9th August 2018 and was completed on the 25th October 2018. Data was updated at 5:50 pm on the 25th October 2018



The (very) preliminary economic assessment to complete the ejector system in the whole port is of about 1,880,000 euros. The assessment includes the costs of designing, supplying and installing the system, drafting manuals and CE mark, safety charges, obtaining the authorizations for installation and operation. The costs of any maritime or ground civil works necessary for the preparation of the works are excluded, as well as any costs for the increase of electricity supply.

(VERY) PRELIMINARY ECONOMIC ASSESSMENT

Ejector Plant Installation	Cost (euro)
Entrance of the canal port	750.000
Marina entrance	550.000
Entrance of fishermen Marina	330.000
Areas subject to changes in the direction of the river Tavollo	250.00 (125.000 + 125.000)
Total	1.880.000

Valutazione economica (molto) preliminare

Impianto	Costo [€]
Imboccatura Porto Canale	750.000
Imboccatura Marina	550.000
Imboccatura Marina Pescatori	330.000
Aree soggette a variazioni di direzione del Tavollo	250.000 (125.000 + 125.000)
Totale	1.880.000

Following the presentation, the participants given their assessment of the action proposal and further indications for the implementation of the proposal using the FUTOUR's Smart Polling for smartphones.

Progetto fattibilità eiettori

FUTOUR



As indicated in the figure above, the project for the feasibility of the ejector system in the whole port was assessed with a scale of 1 (very negative impact) to 5 (extremely positive impact) and the results were:

- Evaluation of the economic impact of the action: **4.1**
- Evaluation of the social impact of the action: **3.6**
- Evaluation of the environmental impact of the action: **4.7**

What can we do to implement full ejector system the and what are the necessary actors?

- Look for European and national funding opportunities.
- Sensitize the population. Publish experimental data integrated with economic data and ecological values indexes collected in the area of experimentation.
- Private- public agreement for the management of port areas.
- Search for other funding and resources provision by local administrations that will be used for planned dredging.
- Involve in a participatory process, the Public bodies, controllers, residents and managers of the installation and business of the port area, with the aim to engage everyone towards a common goal.
- Compare management costs.
- Agreement of parties involved for a correct management.
- Public and private bodies interested in seeking European funding.
- A very good communication of the project and results obtained from the experimentation.

Title of the Action: Eco agreement for the port and separate waste collection

Marco Vescovelli from the Municipality of Cattolica presented the activities that will be included in the action "Eco patto del porto - Separate waste collection" Vescovelli described the state of actions and considerations on previous experiences in the port area about the separate collection of waste .

The Port of Cattolica: recreational dock alongside that fishing boats, along the Tavollo Torrent, both managed by the "Marina di Cattolica" includes:

- A productive value, hosting about 100 fishing boats
- A tourist value, being close to the beach and the town.
- A series of commercial activities: Restaurants, Bars, Ice-cream Shops, Kiosks, Shops, Hotels and B & B.
- Separate collection of urban and similar waste (HERA spa): "Door to Door", for all those activities that have the space to keep the containers in their property; "Ecological islands" for residents from via Caboto, via Antonini, to the Mura Majani.

Vescovelli explained that after several experiments the Municipality of Cattolica has reorganised the waste plan with new possible methods of separate waste collection in the port pilot area. Therefore it is moving towards the introduction of door to door collection throughout the territory and the introduction of Punctual Tariff. The Municipality of Cattolica is the first tourist municipality to introduce the complete door to door waste collection and the Punctual Tariff, already in 2019.

The regional law n° 16/2015 requires that it starts from 2020. It is important to do well the separate collection of all fractions of waste, because the waste measured for the calculation of the tariff will be the only the undifferentiated one.

HOW DOES IS THIS APPLIED IN THE PORTAL AREA?

In commercial activities

- Experimental service will be developed for 6 months from July 2018, in agreement with HERA, to verify the actual needs of the activities present in the port area.
- The number of most appropriate depletions will be established for each type of activity after a needs assessment and on the basis of simulations in anticipation of the application of TCP.

Special waste produced in the port area

- Agreement with the associations, (Coop. Casa del Pescatore, Consorzio Muscolai, Marina di Cattolica, Nautical Club, etc.), in order to manage the problem and give decorum to the port area.
- Pending completion of the tender and awaiting the modification of the Waste Plan, the associations organized themselves in order to provide an adequate response to the correct disposal of the waste produced.

Special waste produced in the port area: the associations

- for the collection of mineral oils, rags and filters, an equipped space created by the Fishermen's Coop was reactivated and the transfer is made through the Oli Esausti mandatory consortium.
- For mussel socks, producers organized themselves directly with a cooperative in Rimini, which collects them directly at the boats, along the dock in the mooring area, on call.
- For seafaring waste and ferrous material as well as for materials accidentally fished at sea, it is proposed to place 2 bins under the Lighthouse tower corner internal quay, through an agreement with Hera.

Special waste produced in the port area: Marina di Cattolica

- Signing of a contract with Hera for the collection of "Garbage" waste, coming from vessels moored in the large dock and in the Marina Piccola, along Tavollo.

For the festivals / events present in the port area, one intervenes in several ways:

- Intensification of the collection waste service by HERA, bringing dedicated containers (in particular for glass, the undifferentiated fraction and plastic).
- Collecting the waste where it is produced, for example, every Wednesday night, after the party of Lamparino, directly at the premises.

SPECIFIC ACTIONS IN THE EVALUATION PHASE:

- Regulation to reduce the use of plastic in school canteens, but also in events, using only biodegradable materials (plates, glasses, cutlery).
- Participation in the Regional call L.R.n. 16/2015, for waste reduction, providing for the installation of water dispensers at school facilities and municipal offices.
- Installation of floating waste collectors (Seabin Project), inside the fishing dock, currently being tested at Cattolica marina

Following the presentation, the participants given their assessment of the action proposal and further indications for the implementation of the proposal using the FUTOUR's Smart Polling for smartphones.

Raccolta differenziata nell'area portuale

FUTOUR



As indicated in the figure above, the project for the eco agreement for the port of Cattolica was assessed with a scale of 1 (very negative impact) to 5 (extremely positive impact) and the results were:

- Evaluation of the economic impact of the action: **3.9**
- Evaluation of the social impact of the action: **4.2**
- Evaluation of the environmental impact of the action: **4.7**

What can we do to implement the separate collection and which actors are needed?

- promote incentives (premiums in proportion to how much they recycle)
- Regional funding.
- Targeted waste plan for the port.
- Communication.
- Agreements with private individuals and industrial/production [A4]associations.

- Joint public-private actions.
- Raise awareness on problematic waste.
- Give a fine to those who pollute and do not collect waste.
- Information campaign , involving businesses, companies and industrial activities.
- Involve schools in awareness actions.
- Finding the funds to finance the project. The role of the Region and of the private beneficiaries of the action of the plants is decisive.
- Promote with the stakeholders the need to reduce waste produced by using recyclable or reusable containers.
- Involve and accompany port operators in changing habits.
- Works of art built by recycling the waste.
- Educate citizens.
- Involve all port stakeholders also during the planning phase.
- Find a reliable manager, and recognize tax benefits to recyclers.

After this third proposed action Carlo Albertazzi presented to the stakeholders of the Co-Evolve initiative a proposal about the **transformation of tourist ports into energy hubs**. The proposal comes from New Energies And environment - NEA s.r.l. a Spin-off of the University of Ferrara and it aims to transform the port area into a kilometre-based energy hub and with zero CO2 emissions using the thermal inertia of the water (Idrotermia) to produce heat, cool and production of sanitary hot water mainly taking advantage of the water temperatures and the their variations with the depth (daily and seasonal) through closed circuit systems: heat exchange with surface water through water that circulates inside the geothermal probes[A5].

area di intervento sperimentale



Porto di Cattolica

New Energies And environment - NEA s.r.l.

The Spin-off Proposal is to create an Industrial Research project aimed to evaluate the environmental and energy sustainability of the port of Cattolica, which includes:

- Evaluation of hydrothermal potential;
- Type and geometric characteristics of the geo-exchange system (probes); system (probes);
- Analysis of environmental and economic sustainability;

Finally, the new Participation portal of the Emilia-Romagna Region was presented. Moreover, the Piazza Co-Evolve was also presented, with the various sections and opportunities to participate online

at the participatory process [A6].

Regarding the **Piazza Co-Evolve** it has been indicated that the Piazza includes a description of the participatory process, with detailed objectives the steps, helping the users to understand the specific policy with immediate access to the materials and a section dedicated to the tools to interact with users, including the possibility to comment the contributions and project news. All actions are possible after registering on the site, even through main social networks.

Finally, **two funding opportunities** were presented (Call for Participation and Urban Innovative Actions) in which the actions identified by the Coevolve stakeholders in the pilot area of the Port of Cattolica could be submitted.

In the second part of the meeting, the work continued in a participatory way to obtain **feedback about the proposals for the actions plan** presented and to define the priority actions to be implemented in the actions plan. The participants divided into three work groups provided further proposals for each of the actions, detailed below:

Title of the Action: Public-private agreement for the implementation of the memorandum of understanding for the management of the port seabed.		
Actors	Activities	Objectives
<ul style="list-style-type: none"> • Municipalities • Arpa • Private • Trade associations • Port authorities 	<ul style="list-style-type: none"> • Have pilot activities and experimentation with penalties • Activities to settle the protocol • define a protocol together, planning, planning, execution • Activities to sign the protocol: • Meetings with the Mayors of Cattolica and Gabicce • Meetings with stakeholders of the two Municipalities • Identification of costs and sources of financing • Communicate well the impact of the protocol • Presentation meeting with citizenship on February or March 2019 	<ul style="list-style-type: none"> • Efficiency and savings in the use of resources • Coordinate, simplify sharing • Bring the protocol to the signature • Correct assignment of roles • Share the purpose of the process • Port redevelopment • Define a control room • Sensitize the Mayors of Cattolica and Gabicce

Title of the Action: Feasibility project for realization of an overall system for the remodelling and management of the seabed by using of ejectors

Actors	Activities	Objectives
<ul style="list-style-type: none"> • Shipyards • Commercial operators • Fishermen • Boaters • Public bodies • ARPAE • Companies • Design studies • Research centers and universities • Economic activities • Companies for Fund raising 	<ul style="list-style-type: none"> • authorization of assignment procedures (if necessary) • Project Promotion • Seek additional financing. • Evaluate the business model with self-financing 	<ul style="list-style-type: none"> • Quantify costs and benefits • Coordinated management of the waterway and the port • Obtaining financing • Simplify system, analysis and validity • Implementation of the project

Title of the Action: Eco agreement for the port and separate waste collection

Actors	Activities	Objectives
<ul style="list-style-type: none"> • Hera • Boat owners • Municipalities • Association of citizenship category • Tourists 	<ul style="list-style-type: none"> • Prepare different waste collectors for at least plastic, glass and so on • Install waste oil collectors • Develop a separate waste collection communication plan • Prepare a plan for special waste • Develop an app for tourists 	<ul style="list-style-type: none"> • Reduction and zero production of undifferentiated waste • Special waste management • Management of exhausted oils • Reduction of the impact of the Port

In the last part of the meeting, participants have given further indications on the next steps and commitments for the pilot area of the Port of Cattolica.

AND NOW WHAT WE DO? NEXT STEPS?

- Meeting and agreement between the mayors of Cattolica and Gabicce, then widening the participation with technical bodies private companies, consumer association.
- Contact further industry and trade associations.
- Define the points of the protocol.
- Find funding to support the action plan.
- Finalization of the Action Plan. Contents that will be presented in the Public event on February / March 2019
- More capillary communication about the Action Plan to avoid future disputes. At the same time make a protocol management simulation, explaining benefits and savings.
- Produce documents and informative material to share with a more wide public.
- Make this network of contacts profitable, finalizing the contents of the work carried out.

- Plan meetings aimed at presenting a project to find funding.

Construction of the work plan and definition of milestones

Workplan Objectives

Pilot Area 2-A: Cattolica harbour and coastal area (Rimini, EMILIA-ROMAGNA, Italy).

-

- Reduction of dredging impacts.
- Sediment monitoring of the whole port area.
- De-silting device installation in a critical site and monitoring,
- Relaunch of sustainability oriented maritime and coastal tourism, linked to the port activities.

Milestone

Pilot Area 2-A: Cattolica harbour and coastal area (Rimini, EMILIA-ROMAGNA, Italy) and Pilot Area 2-B: Comacchio, Lido di Spina (Ferrara, EMILIA-ROMAGNA, Italy).

- Institutional Agreements between RER and municipalities of Cattolica and Comacchio.
Time: M31 (05-2019)
- Action Plans for sustainable tourism in Pilot Area 2, Cattolica port (2A) and Comacchio beach area (2B) . Time : M31 (05-2019)
- Reports on local seminars /(Participatory process Pilot Area 2. Time: M19 (05-2018) and Final M28 (02-2019)

6. Building knowledge framework in the pilot area

The overall aim of the step “Building Knowledge framework” is to analyze the area, in a coherent and integrated way, in order to build up the knowledge to support the decision-making process and the participatory process.

Threats: Climate Change and morphological stability

The littorals extending north and south of the Cattolica harbour are composed of sandy beaches, in general protected by groins and emerged breakwaters. The analysis of the recent evolutionary trend has shown that in the period 2006-2012 the northern beach (cell n. 4) was characterized by erosion, whereas the southern one (cell n. 3) by accretion.

A few aggradation phenomena have been observed along the coastline behind the Cattolica breakwaters. Consequently, for over 20 years, the Municipality of Cattolica and the bathing establishment owners have removed sand from the beach behind the first 10 southern artificial reefs (thus avoiding the connection between shore and reef) and have transported it to the northern stretch of the beach of Cattolica and Misano Adriatico, which were undergone slight erosion (Montanari &

Marasmi, 2012). As this is an area of high tourism vocation, the reduction of sediment losses from the coastal system is a very important factor in the framework of the regional coastal protection strategy. Due this coastal asset the climate change effects are expected to have a relevant impact on the coastal morphology, in particular if the sea level rise will be linked with an increasing of storm and high water events.

Threats : Littoralization and Urbanization

The high density of urbanization and littoralization of this area is one of the main issues that affects all the activities in relation to coastal protection and management, and that will, of course increase the flooding risk during storm events.

Threats: Pollution and other anthropogenic pressures affecting ecosystems.

Artificialization& habitat loss: The data reported for both indicators refer to the 10km-wide coastline belonging to Rimini NUTS3 region (ITH59). The area is extremely highly artificialized (18.50% of artificial areas over NUTS3 10km wide coastline), with natural areas in fewer extent compared to artificial areas. This value is the HIGHEST among the PAs, even higher than Valencia. Habitat loss is also alarming, since the ratio between natural and artificial is only 0.09.

Water pollution: Data available via European statistics (<https://www.eea.europa.eu/data-and-maps/data/bathing-water-directive-status-of-bathing-water-9>). The value reported at NUTS3 level is very alarming, especially compared to EU coastlines and to other PAs. 63% is in fact a very low value of bathing quality, since most of Mediterranean EU coastlines currently reach higher % of excellent bathing sites. However, measurements at pilot site also exist and gave a different picture. According to these measurements, bathing water quality in Cattolica was "good" during 2017, and no contaminations were detected. *Noise:* Data refer to the city of Rimini contains information on the number of people exposed to five decibel (dB) bands for two indicators "Lden: 55-59, 60-64, 65-69, 70-74, >75" and "Lnight: 50-54, 55-59, 60-64, 65-69, >70". We calculated the cumulative percentage of people exposed to the five bands for "Lden". (data submitted from 2012 till 2016). The PA is likely to have lower levels of noise pollution in comparison to the bigger city of Rimini; however, we think the value recorded in Rimini could be an acceptable indication for the PA as well, being Rimini and Cattolica characterized by similar economic patterns.

Waste production Waste generation in Cattolica looks high in comparison with other areas for which information is available, especially considering that the value is already “adjusted” with tourist presences. The value is in line with NUTS2 regional production, which is the highest in Italy. There’s an estimation of marine litter collected along Cattolica’s beaches: 1500 to 2400 t/year. Light pollution: The PA has very high light pollution, especially in comparison with other PAs. The data reported refer to the mean value calculated at the NUTS3 10 km coastline. Light pollution is direct consequence of urbanization and “wild” coastal development which occurred in this area in the past century.

Threats: Conflicts among different uses on land and at sea and land-sea interaction.

In general tourism is highly depending on a healthy environment, the key areas of conflict regarding the coexistence of touristic activities and other economic sectors are: Conflicts concerning the use of space; Exploitation of the same coastal and marine resources; Conflicts related to the degradation of natural ecosystems. The multi-uses taking place in coasts make them highly vulnerable to both human and natural hazards, causing adverse effects on each other (land use conflicts) and on the coastal marine environment (anthropogenic activities - marine environment conflicts). These conflicts weaken the ability of the ocean and coastal areas to provide the necessary ecosystem services upon which humans and all other life on earth depend.

Enabling factor: Coastal protection measures

The littoral of Cattolica is strongly devoted to beach tourism, especially to families and young visitors. In 1934 a fishing dock was built near the west pier, and in 2006, the new offshore sea protection works of the yachting marina of Cattolica were built in front of the old port and the dredged quantities of sediment (around 100'000 m³) were used for beach nourishment purposes in the adjacent areas suffering erosion and protected by emerged barriers. The cost of erosion prevention of the beach is the same for its maintenance, mainly consisting of beach nourishment. In fact, from 2000 to 2010, 10.000 m³ of sand (estimation of the cost is around 150'000 € for each nourishment action) were nourished every 5 years to the coastline. A sediment loss of 22 m³/m have been still estimated in the period 2006-2012, although the presence of protection structures, revealing an unstable equilibrium of the area in terms of sediment budget, that obtains benefits from the nourished sand. No intervention for the hard defense works maintenance occurred in the recent years. The improvement of coastal protection measures will be one of the output of the pilot site small scale investment. The

right and low coast management of the port internal sediments can boost the tourism and improve the sand management of the whole stretch.

Enabling factor: Ecosystems protection

Coastal biodiversity and landscape protection: the PA is a very small (6.2 km²) highly urbanised coastal area with an harbour which serves various purposes: fishery, shipyard, crafts production, and pleasure boats. Cattolica is also a seaside resort structured with bath-house facilities. Since there is silting of the internal harbour area coupled with social crisis, the PA needs to be re-launched for sustainable tourism. To this aims, there is a N2000 hilly site in the proximity of the PA, named “Colle s. Bartolo”, which could serve to enlarge the current touristic offer. Five EU habitats were identified in this N2000 site: Reefs; Annual vegetation of drift lines; Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites); Eastern white oak woods; Salix alba and Populus alba galleries. Management plan for the N2000 site need to be put in place in order to effectively manage and protect it, but also in order to better plan sustainable tourism coupled with the existing recreational activities in Cattolica. *Waste recycling:* Cattolica did recycle 8.574ktonns of waste in 2014, which is ca. 52% of total waste generation. The value is line with the other municipalities of the NUTS3 Rimini and with other Italian PAs. Still, considering the high waste production and its seasonality due to sea side tourism, more effort could be done in preventing waste generation. *Adequacy of legislation tackling pollution:* Local pieces of legislation addressing air pollution are the D.lgs 155/2010 - L.R. 44/95 -PAIR - DGR n. 115 11.04.2017.

Regarding noise pollution, there are several plans and pieces of legislation addressing the issue: L. n.447/95 - L.R. n. 15/2001 - D.G.R. n. 45/2002; and a Municipal Regulation for regulating temporary noise generating activities (C.C. n. 29 approved in 20/05/2010). This considered, we assigned an “intermediate” level to adequacy in tackling pollution. It would be interesting to gather information on the regulation in force in the Port of Cattolica.

Enabling Factor: transport and accessibility

Well connected with the intercity bus and train stations. Nearest International Airport is 12km away and ferry port (Ancona) is 100km away. This PA may provide easy touristic accessibility. There are no big ports in this PA, however smaller marinas and beaches are present and may need timely dredging and coastal defense or beach nourishments in order to maintain the good accessibility. The pilot site

small scale investment will help the multipurpose use of the port, boosting tourism and accessibility to the port and to the city.

LIST OF SELECTED CORE INDICATORS FOR **COMACCHIO** [A7] PILOT AREA

C.A1.1.	% of tourism enterprises/establishments in the destination using a voluntary certification/labelling for environmental /quality/sustainability and/or Corporate Social Responsibility
C.B1.1.	Number of tourist nights per month
C.B2.1.	Average length of stay of tourists (nights)
C.B3.1.	Direct tourism employment as % of total employment in the destination
C.C1.1.	Number of tourists/visitors per 100 residents
C.D6.3.	% of annual amount of energy consumed from renewable sources (Mwh) compared to overall energy consumption at destination level per year
Destination Indicators: Di.Beach/Maritime tourism	
Di.A4.	Number of second homes per 100 homes in coastal zones*
Di.B1.	number of tourist infrastructure (hotels, other) located in coastal zones*
Di.C2.	% of beaches awarded the Blue Flag (2017)
Di.C3.	Costs of erosion-protection measures (e.g. sea walls.)
Di.C4.	Beach nourishment: sand volume and extension of the restored beach (m3 and m2)
Di.D1.	Existence of up to date tourism plans and policies (YES/NO)
Di.D2.	Existence of a land use or development plan (YES/NO)
Di.D8.	Existence of performance indicators designated for evaluating the plan developed and used(YES/NO)
Di.D11.	Existence and functioning of a representative coordinating mechanism for MSP/ICZM (YES/NO)
Destination Indicators: Div.Recreational boating (Yachting/Marinas)	
Div.A2.	Number of yachts per year (by month)
Div.A4.	Average duration of stay in port (in days)
Div.D11.	Existence and functioning of a representative coordinating mechanism for MSP/ICZM (YES/NO)
Pilot area-specific indicators	
P.A1.2.	% shoreline subjected to erosion
P.A1.3.	Coastal area in degraded condition (low/medium/high)
P.A1.6.	Coastal flooding events per year(number)
P.A2.1.	Land occupied by artificial surfaces within the first 500m of coast (in %)
P.A2.2.	% of area designated for tourism purposes
P.A3.1.	Total tourist numbers (mean, monthly, peak) (categorized by their type of activity)
P.A3.3.	Water use (total volume in liters or m ³ consumed and liters per tourist per day)
P.A4.2.	Rate of loss of protected areas
P.A5.1.	Total use of water by tourism sector (Tourism as a % of all users)
P.A5.2.	Energy use by tourism industry as % of total
P.B1.1.	Existence of a coastal planning management system
P.B1.2.	Length of protected and defended coastline (km)
P.B4.8.	Volume (m ³) of sediments dredged per year
P.C1.2.	% environmental, social, cultural actions recommended in plan which have been implemented
P.C3.1.	Level of tourism sector involvement in public policy (advisory bodies, review panels etc)

7. *Defining vision-goals-objectives in the pilot area*

The starting point to create an effective strategy for sustainable tourism development in coastal areas is to set the main direction to which we want to move: the vision and its related objectives.

The construction of the vision for the area and the identification of strategic specific objectives must be constructed, on one hand, addressing the strategic issues emerged from the analytical phase, and, on the other hand ensuring the coherence and compliance with ICMZ and Sustainable tourism principles and main goals.

A smart Harbor represent for the city of Cattolica a strategic element, both for visitors and guests, needed to achieve a high life quality and to support a responsible and sustainable use of local resources.

Tourists and visitors can experience Cattolica not only as a clean, safe, green, sustainable and efficiently managed harbor area, but also as a “smart” example of a medium/small urban area that aims at balancing costs and benefits of tourism and at enabling visitors to become “temporary residents”.

This concept of Smart city not only try to reduce the ecological footprint, and the other environmental impacts, it also aims at combining knowledge of local behaviours and traditional economies, to offer good governance for natural protection and for social equity, in order to become a leader on innovative coastal tourism.

This smart city approach is “made for tourism”. It offers the complete package: social stability, protected nature and green spaces, innovative mobility concepts and the possibility to enjoy individual, unusual travel experiences in a safe yet dynamic environment. Smartness and sustainability meets the expectations of more and more tourists, who increasingly demand for social responsibility and for whom the possibility of engaging in different experience and discovery is becoming more and more essential.

The **future vision** of Cattolica's harbour is that of a port that is a global point of reference for other similar harbours, marinas and ports.

In Cattolica's port eco-sustainable solutions and innovations are prototyped on a technical and societal level, indicating the way to a sustainable future, respecting and going beyond all the national rules and regulations by setting new and improved standards.

The port of Cattolica is the place where the community periodically designs the route and vision to develop and manage the area in a sustainable and ecological way. It establishes action plans and

indicators to monitor the continuous improvement on the parameters for a sustainable management of the port, including, for example: separate waste collection, quality and integration of services, short value chains (e.g. slow food or similar), pollution reduction, ecotourism, cleanliness and decorum, low energy consumption, economic sustainability (e.g. fishing, haulage, leisure craft, shipbuilding), research and technological innovation, strengthening of social capital, collaboration and fostering social innovations, etc.

