

AdriaClim

Climate change information, monitoring and management tools for
adaptation strategies in Adriatic coastal areas

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REPORT ON THE PARTICIPATORY PROCESS FOR PILOT AREA Emilia-Romagna

PP16 – Regione Emilia-Romagna

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1. Foreword

This document has been produced in the framework of the INTERREG Italy – Croatia Strategic, AdriaClim Project. AdriaClim aim is to improve climate resilience in the cooperation area, by increasing the capacity to develop new climate adaptation plans and update existing ones and develop mitigation strategies based on high resolution, more accurate and reliable climate information (observations and integrated modelling) focussed on the coastal and marine areas (threatened by risks such as sea level rise, sea temperature and salinity anomalies, coastal erosion and salinization of freshwater) and related economic sectors and ecosystem services. AdriaClim aims at developing an Adriatic scale regional plus local scale for each Pilot integrated information systems composed by hydro-meteo-marine climatological databases (model scenarios and observation) and knowledge-based tools (e.g indicators) for advanced dynamical implementation of regional climate adaptation plans relevant and accessible for entire the Programme area and Countries. AdriaClim aims also at the production of specific Adaptation Plans for the pilot Adriatic coastal areas involved. Additional information and updates on the AdriaClim can be found at <https://www.italy-croatia.eu/web/adriaclim>

2. Aims and content of the document

Aim of this document is the reporting on the Participatory Processes designed and implemented by the Partners responsible of Activity for the Pilot Sites.

It represents the synthesis of participatory process outcomes, with reference to the first 3 points of the WP5 Roadmap, reported in Chapter 5 of the WP5 Coordination Plan, as follows:

1. **Stakeholder mapping and analysis:** Partners responsible for Pilot Sites (PS) Activities, from 5.3 to 5.11, are expected to identify all relevant actors and stakeholders, in relation to the issues to be tackled and objectives to reach.
2. **Design of the Participatory Process:** Partners responsible for Pilot Site Activities, with the support of an expert facilitator (external or internal), are expected to design /set up a dedicated participatory process in relation to the issues to be tackled and the nature and characteristics of the stakeholders.
3. **Implementation of the Participatory Process:** Partners responsible for PS Activities, with the support of an expert facilitator (external or internal), are expected to implement the designed process along, mainly, 2021-2022 first-half period, starting from a “preliminary report” on the Pilot sites prepared by the Partners responsible, to feed the start of the Participatory Process. This phase includes the implementation of participatory workshops in presence or online (depending on possible covid-19 restrictions), or other modalities and tools as indicated further in this document, by the means foreseen (i.e., local coordination meetings, public meetings, online virtual squares, blogs, online consultations tools, etc.).

3. AdriaClim project and the objectives of WP5

AdriaClim aims to improve climate resilience in the cooperation area, by increasing the capacity to develop new climate Adaptation Plans, update existing ones, develop mitigation strategies based on high

resolution, more accurate and reliable climate information, focused on the coastal and marine areas and related economic sectors and ecosystem services.

The main goal is to deliver to decision makers and coastal communities in vulnerable areas, the adequate updated, accurate and reliable climate information to develop integrated ecosystem-based and shared planning options and adaptation measures to climate change. Adaptation measures and Plans are expected to be developed in cooperation with local authorities and with the participation of stakeholders, compliant with ICZM and MSP principles.

4. Description of the Participatory Process designed by Pilot Sites

4.1 Che Costa sarà (What Coast will it be)? – Emilia-Romagna Region

The Pilot Site Activities of the Emilia-Romagna Region have involved the four coastline provinces of Rimini, Cesena, Ravenna and Ferrara. The title of the participatory project, being the project about raising awareness on climate change and its impact on the coastline was defined through a series of facilitated brainstorming activities involving the core team that has been “art-directing” the participatory process. The emerging title is “Che Costa Sarà?” literally meaning “What Coast will it be?”. In Italy the wording “Che costa Sarà?” was chosen because it is similar to the question that people ask about the weather forecast for the next days “what will the climate be like?” (“che tempo farà?”), so it is a word pun that can be catchy for the ear and make people think in longer term about what can be the impact of climate. This was connected strongly to the participatory process principles in that they envisage an analysis of the state of the art “The knowledge framework” on the current conditions, forecasts of possible future impacts, workshops about positive and negative visions of the future of the coastline and workshops about actions to be taken to address and reduce the impact of climate change, together.

4.2 Area, themes, sectors of intervention

The pilot area of intervention is the whole coastline of the Emilia-Romagna Region and the themes and sectors of intervention are concentrated on the following three main themes:

- Problems, challenges and solutions relating to interventions for the protection of the coastline. The shared identification of critical aspects, weak spots on the coastline and the possible solutions and interventions.
- The management of the beaches. This included both the management of the sediments on the beaches and the safe use of the beaches also in other seasons than the summer.
- Governance of the coastline strategy. The collaboration between stakeholders so as to address the long-term shared actions changes that will need to be introduced by the future coastline strategy and plan.

These aspects will be described in greater detail in the points below.

4.3 General aim of the operation

The general aim of the operation is to involve the main stakeholders of the coastline of the Emilia-Romagna Region in shaping the future coast management strategy so as to address the challenges posed by climate change.

Facing the current and future challenges of climate change means working in a systemic logic that involves the various regional and local components of the territory, for the shared construction of a coastal

protection and adaptation strategy capable of combining the protection of environmental values, ecosystems, socio-economic and sustainable development of the whole coastal strip.

As part of the "AdriaClim" European project, the Region, together with its Agencies and other important partners, has launched a process of verification and relaunch of the integrated strategy for the regional coast, promoting the participation of local authorities, economic operators, the research sector and civil society.

The participatory path was structured as follows:

- A first phase, in May, consisting of 6 participatory workshops:
 - Tuesday 4th of May 2021 plenary participatory workshop "Knowledge Framework" and "Future Vision".
- A series of territorial workshops "Actions".
 - Thursday 6th of May: Rimini coast.
 - Tuesday 11th of May: Cesena coast.
 - Thursday 13th of May: Ravenna coast.
 - Tuesday 18th of May: Ferrara coast.
- Thursday 27th of May: plenary participatory workshop "Comparison and Integration" of the territorial workshops.
- The opening of a virtual square ("What coastline will it be?") to inform, communicate and interact with all the institutions and stakeholders involved in the participatory process. The virtual square is available in Italian at the following link.
<https://partecipazione.regione.emilia-romagna.it/che-costa-sara>.
- Follow-up meeting and opportunities for dialogue with the stakeholders, one of which on the 16th of November 2021 and one planned in the spring of 2022
- Public consultation phase: launched in April 2022, opened until June 2022
- Integration of the contributions from the public consultation and fine-tuning of the strategic document by the responsible regional structures, from July 2022 to January 2023

Additionally, in February 2022 Regione Emilia-Romagna took the opportunity of different funding source (JRC Science meet Regions programme) to follow up on the same participatory process, launching an ["innovation camp" for an Intergenerational Pact for the Coast of Emilia-Romagna](#), focusing on the involvement of younger generations in the process.

The participatory process is absolutely essential to both raise the awareness of the stakeholders and local communities and to identify, anticipate and address all the critical aspects related to climate change that will otherwise have a disastrous effect on the environment, society and economy of the Emilia-Romagna's Regional coastline.

4.4 Objectives of the participatory process

The participatory process "What will the Coastline be like?" envisaged a shared cocreation of the Integrated Management Strategy for the Defence and Adaptation of the Coast with the regional coastal community to achieve the following objectives:

- Share the Knowledge Framework with coastal Municipalities, other territorial institutions and stakeholders, to raise awareness, collect supplementary information, proposals, ideas and contributions.

- Define a "common ground" and a shared vision of the regional coast, also in relation to future scenarios of climate change.
- Share the definition of strategic lines and actions on issues such as: structural interventions, good coastal management practices, governance of the defence action and management of the coast.

These objectives guided the design of the participatory process.

The purpose of the participatory process is to involve in the co-design of adaptation solutions for the coastal area of Emilia-Romagna various groups of stakeholders, considered key subjects in the development of the Integrated Management for Defence and Coastal Adaptation to Climate Change (GIDAC is the Italian acronym used to resume the strategy):

- local administrations and other territorial bodies
- trade associations and representatives of business and service categories
- environmental and territorial associations
- research institutions and universities
- technical agencies and regional services

For this purpose, the first event that opened the participatory process was mainly of an informative nature, the InfoDay on the 23rd of April 2021 "What will the Coastline be like? The coastal area and the challenge of climate change".

Following this event, the first phase of the participatory process was organised, structured in three steps:

1. the presentation of the framework of available knowledge on the criticalities and impacts of climate change on the coastal areas of Emilia-Romagna, addressed to all stakeholders who have been identified and involved in the participation.
2. Four territorial workshops, each one dedicated to one of the coastal provinces of Romagna: Rimini, Forlì-Cesena, Ravenna, Ferrara.
3. A final workshop to compare and summarise the results of the territorial workshops.

The purpose of the first workshop on "Knowledge Framework and Future Vision" that was held on the 4th of May 2021 was to share the knowledge framework on the coast, collect any further information from the participants and elaborate a future vision on the coast to define a "common ground" on which subsequently build the actions at the local and more general level, in the dedicated territorial workshops.

A summary of this workshop is available in the document "Report of the virtual Workshop" Knowledge and Visions "(4th of May 2021)" available in the documents section on the virtual square in Italian <https://partecipazione.regione.emilia-romagna.it/che-costa-sara/documents>.

The four territorial workshops focused on different themes: coastal management and adaptation, medium-long term actions and projects, good beach management practices, use and rules of use of beaches in seasons other than bathing, governance and method of work shared between the stakeholders for the management and use of the coasts. In these workshops, the critical issues and specific impacts for each area were presented, thanks to the specialist intervention of the technicians of the regional Territorial Security and Civil Protection Services responsible for the territories of the coastal provinces. Subsequently, with the contribution of all the participants in the workshops, the critical issues were discussed leading to

the identification of proposed solutions that are the basis for the work in the subsequent phases of the participatory process, in order to arrive at a final integration in the Integrated Management for Defence and Coastal Adaptation to Climate Change (GIDAC). This report illustrates the contents produced by the four territorial workshops in the provinces of Rimini, Forlì-Cesena, Ravenna and Ferrara.

Then, a "Comparison and Integration" workshop was performed on Thursday the 27th of May 2021 in order to bring together the results of the laboratories in the areas of Ferrara, Ravenna, Forlì-Cesena, Rimini. This led to sharing, harmonising and refining of the elements that emerged for their assimilation into the Integrated Management for Defence and Coastal Adaptation to Climate Change (GIDAC).

The advanced draft of the GIDAC Strategic Document was prepared as a result of this process.

The same draft, particularly Section C which goes into detail of the actions proposed by the strategy, was posted on the PartecipAzioni platform for public consultation. The platform allows for direct concurrent editing of the text, commenting and contributing. All the texts that describe the actions were made available, making it possible for citizens to read, comment, propose changes, corrections, additions. The process was launched in April 2022 with a specific public event.

The public consultation ended in June 2022, with feedback on the results, the analysis of the comments and contributions by the editors and the integration of all relevant contents.

Furthermore, thanks to a partner project, the participatory process had the possibility for add up an additional step, namely a consultation phase for an Intergenerational Pact for the Coast of Emilia-Romagna (see details [here](#))

4.5 Results of the participatory process

The expected results of the participatory process include:

- Raised awareness on the climate challenges among all the stakeholders of the coastline.
- New and integrated forms of collaboration among the stakeholders to shape and manage the future strategy. This includes the mainstreaming of participatory approaches and facilitation techniques to ensure a continuous dialogue and ability to take decisions as new challenges may emerge.
- A set of dynamic planning tools to keep adapting and improving the knowledge framework.
- Shared definition of common challenges and solutions, including remedial actions that can be taken to mitigate the impact of climate change.
- Contributions directly from a broader audience of stakeholders, through the public consultation phase

4.6 Timing for the participatory process

The participatory process is performed over one and a half years with diverse levels and tools to engage and inform the participants.

The first induction phase (from January to June 2021) has been the most intense as all the energy had to be concentrated on preparation, activation and launch of the participatory process. This phase has had the highest concentration of participatory co-design sessions with stakeholders and the activation of the "virtual square" to communicate all updates and to keep a constant contact with the stakeholders of the process. The outcomes of this first phase have also strengthened the knowledge framework and have provided some indications about priorities. As one may see from the table below this phase envisages a

series of preparatory meetings of the “Art direction team” of the participatory process and workshops with key stakeholders.

The follow-up phase from June to November 2022 included an interactive workshop for the stakeholders on the progress of the design of the strategy.

Moreover, a Public Consultation phase was carried out between April and June 2022.

4.7 Phases of the process and timing

In this section we describe the phases that have been performed in the first six months of the participatory process (January-June 2021) and in the following six months (July to December 2021), and further steps in 2022 and 2023.

The facilitation of the participatory process followed three main phases:

- Preparation of the participatory process
- Implementation of the participatory process
- Iterative activities during and after the participatory process
- Further steps

Preparation of the participatory process

- Creation of the art direction steering team of the participatory process: “ADRIACLIM Participation Team”.
- Sharing and agreeing objectives and methods with the Participation team.
- Identification and selection of the stakeholders to be invited in the participatory process.
- Preparation of the contents, questions and topics covered by the participatory discussion.
- Selection of participatory methods and working tools for online workshops.
- Preparation of operational work schedules to perform the participatory events (Storyboard).
- Training of the participation team, job descriptions and simulations of the methods and laboratories used.
- Selection of questions for surveys.
- Selection of themes and methods of collecting ideas and proposals for actions for the workshops on visions and actions, with the creation of specific visualisation tools on Miro.
- Cold run of participatory workshops and info-days to check all details and adapt the process to last minute requirements.

Implementation of the participatory process

- 2021 First Semester:
 - Online Info-day workshop with facilitation and moderation of interventions and interactive surveys.
 - Workshop on the cognitive framework with moderation of interventions and facilitation of working groups on future visions.

- Territorial laboratories for the four provinces of the coast to collect proposals regarding critical issues and solutions relating to coastal maintenance, sediment management, the use of beaches even in autumn, winter and spring and future governance among coastal stakeholders.
 - Participatory “follow-up, comparison and integration” workshop to integrate the results from all participatory territorial labs, refine the strategies, identify actions, interventions and future priorities.
- 2021 Second Semester:
- Pilot consultation and survey with key stakeholders on the main actions envisaged by the Integrated Management for Defence and Coastal Adaptation to Climate Change (GIDAC) strategy.
 - Participatory workshop to report back and fine tune the Integrated Management for Defence and Coastal Adaptation to Climate Change (GIDAC) Strategy with the stakeholders from the Emilia-Romagna coast, on the 16th of November 2021. This new Intermediate workshop has been added for updates on the knowledge framework and the coastal strategy and to demonstrate how the results of the participatory process have been included in the strategy. It has been performed in the fall 2021 to involve the same stakeholders that have participated in the previous phases.

Iterative activities during and after the participatory process

- Creation of instant reports that have been collected in a single incremental report with all workshop results in the first semester.
- Creation of a report of the participatory workshop of the 16th of November 2021 within the second semester.
- Preparatory activities in view of the migration of the "What will the coast be like?" participatory square from “IoPartecipo+” to the new Decidim-based advanced participatory platform for the animation and engagement of stakeholders from the coastline. The new participatory tool substituting “IoPartecipo+” will be called “PartecipAzioni” and will be launched in the beginning of 2022 to share again videos, news, reports and polls.

The table below describes the main steps and timing of the participatory process.

Main steps and activities of the participatory process of the Emilia-Romagna Region

Activity	Timing
Support and advice to the Regional Working Group. Creation of a dedicated regional working group “AdriaClim Participatory Team” with the technical support of professional facilitators from FUTOUR.	From December 2021 and for the whole duration of the project
Context analysis and stakeholders mapping.	From December 2021 with adaptations throughout the project

AdriaClim “info day” , opening and information meeting on the GIDAC Coastline strategy and to describe the participatory process. This event involved over 180 stakeholders from the whole Region	23 rd of April at 10.00-13.00 Online, interactive webinar
“Knowledge framework” and “Vision making” participatory workshop for about 60 stakeholders from the whole coastline.	4 th of May at 10.00-13.00 Online workshop
Participatory territorial “Action planning” workshop in the Rimini area for about 15-20 local stakeholders.	6 th of May at 10.00-13.00 Online workshop
Participatory territorial “Action planning” workshop in the Cesena-Cesenatico area for about 15-20 local stakeholders.	11 th of May at 10.00-13.00, Online workshop
Participatory territorial “Action planning” workshop in the Ravenna-Cervia area for about 15-20 local stakeholder	13 th of May at 10.00-13.00 Online workshop
Participatory territorial “Action planning” workshop in the Comacchio-Goro area for about 15-20 local stakeholders.	18 th of May at 14.30-17.30 Online workshop
Participatory “follow-up, comparison and integration” workshop for about 60 stakeholders from the whole coastline. The workshop was performed to integrate the results from all participatory territorial labs, refine the strategies, identify actions, interventions and priorities.	27 th of May at 10.00-13.00. Online interactive webinar/workshop
Intermediate participatory workshop for updates on the knowledge framework and the coastal strategy and on how the results of the participatory process have been included in the strategy. The meeting involved 40 stakeholders from the entire coastline.	16 th of November at 10.00-13.00. Online webinar
Webinar: presentation of the new participation platform “PartecipAzioni” and launch of the public consultation of the GIDAC Strategy document (37 participants, 13 contributions collected on the same day)	5 th of April 2022 – 11.00-12.30 Online webinar
Technical / operational support for online communication / participation and “virtual square” animation on the “IoPartecipo+” regional platform (active again in 2022 and renamed PartecipAzioni”)	From January 2021, for the whole duration of the project.

Further steps 2022 - 2023

Following the conclusion of the participatory process of co-creation of the Strategy, a first overall draft of the Strategy Document was drawn up and made available for the public consultation to give the opportunity to all citizens to comment and contribute. This Public Consultation phase took place online, on the new regional platform “PartecipAzioni”, from April 5th to June 6th2022.

The results of the Public Consultation were elaborated and collected in a dedicated report. The document was published in June 2022 on the section "Piazza Che Costa Sarà?" of the "Partecipazioni" platform. The "Restitution document" was published and is available here <https://partecipazioni.emr.it/processes/che-costa-sara/f/83/posts/124>

Moreover, thanks to a new funding opportunity, the "Science Meets Regions" programme by the European Commission Joint Research Center, Regione Emilia-Romagna had the opportunity to follow up on the participatory process with a so-called "Innovation Camp" that developed prototypes for implementing an "Intergenerational Pact for the Coast of Emilia-Romagna – Che Costa Sarà?". Information is available [here](#).

The Intergenerational Pact "Che Costa Sarà?" (What Coast Will It Be?) has been held starting March 7th2023 with the contribution (funding) of the "SMR" programme and within the scope of Adriaclim project for the further elaboration of the GIDAC Strategy ("Integrated Management Strategy for Defence and Adaptation of the Regional Coast to Climate Change").

5. Elements and context of the Participatory Processes by Pilot Sites

5.1 Stakeholders involved

In each of the participatory workshops, several representatives of local stakeholders took part in the process. The list below describes the organisations, associations and other stakeholders who effectively took part in the workshops:

- Regional Agency for the territorial safety and civil protection - territorial services for the Provinces of Rimini, Forlì-Cesena, Ravenna and Ferrara.
- ARPA Veneto.
- ARPAE.
- ART-ER.
- Beachmed association.
- CNA association (SMEs).
- Carabinieri police service on biodiversity.
- CESB Lidi Estensi e Spina.
- CNA Emilia-Romagna Region.
- CNA on the touristic and beach sector of Ferrara.
- CNR - National Research Council ISMAR.
- Municipality - Comune di Bellaria Igea Marina.
- Municipality - Comune di Cattolica.
- Municipality - Comune di Cervia.
- Municipality - Comune di Cesenatico.
- Municipality - Comune di Comacchio.
- Municipality - Comune di Misano Adriatico.
- Municipality - Comune di Ravenna.
- Municipality - Comune di Riccione.
- Municipality - Comune di Rimini.
- Municipality - Comune di San Mauro Pascoli.
- Trade association of the shopkeepers - Confesercenti Ravenna Cesena.
- Reclaim consortia - Consorzio di Bonifica della Romagna.
- Cooperativa Bagnini di Riccione.
- Delta 2000 soc.cons. PA.
- ISPRA.
- Trade association - Legacoop Romagna.
- Environmental association – Legambiente.
- Environmental association - Legambiente circolo Delta Po.
- Environmental association - Legambiente Forlì Cesena.
- Environmental association - Legambiente Ravenna.
- National natural park - Parco del Delta del Po.
- Province - Provincia di Rimini.
- Regional service - Regione Emilia-Romagna.
- Regional service - Regione Emilia-Romagna Servizio Difesa del Suolo, della Costa e Bonifica.
- Regional service - Regione Emilia-Romagna - Servizio Geologico, Sismico e dei Suoli.
- Municipal consortium - Unione Rubicone e Mare.
- University - Università degli Studi di Bologna.
- University - Università degli Studi di Ferrara - Dipartimento di Architettura.
- University - Università degli Studi di Ferrara - Dipartimento di Fisica e Scienze della Terra.

The organisations and participants were chosen and involved as a result of the **stakeholder map** that was created in the initial part of the process. The **stakeholder map** was created through participatory meetings and through asynchronous activities where the participation team performed outreach activities, searched and proposed specific organisations and names in a shared table.

The table that was created to map the stakeholders has a series of fields that have been filled in with the participation team for each of the four provinces of the coast.

In the creation of the map of the stakeholders of the participatory path the team concentrated on the following key players for each territory:

- Municipal Administrations:
 - Mayors and councillors;
 - Municipal contacts Office / Contact person for beach and / or state property management and / or LLPP and / or environment;
 - Office and contact person for the Arenile Plan and Urban Planning;
 - SECAP municipal contact person: Energy, Sustainability and Climate Plan;
- Provincial Administrations:
 - Planning office;
 - Territorial policies area;
- Emilia-Romagna Region and agencies
 - Soil, Coastal and Reclamation Defence Service;
 - Reorganisation service, Institutional Development and Territorial, Participation;
 - Urban Planning, Transport, Landscape Service;
 - Mobility, Logistics and Water Transport Services;
 - Impact Assessment and Environmental Sustainability Promotion Service;
 - Tourism, Commerce and Sport Service;
 - Sustainable Agriculture Service;
 - Geological, Seismic and Soil Service;
 - Service of Protected Areas, Forests, Mountain Development;
- Water, Air and Physical Agents Protection and Remediation Service;
- Legal Service for the Environment, Waste, Cont. Site Remediation, Environmental Public Services;
- Technical Policy and Civil Protection Service;
- European Policy Coordination Service;
- Tourism, Commerce and Sport Service
- Service for Wildlife Activities, Hunting and Fishing;
- ARPAE; IdroMeteoClima, Coastal Monitoring Unit;
- Italian Regions
 - Veneto;
 - Toscana;
 - Sicilia;
 - Puglia;
 - Sardegna;
 - Molise;
 - Abruzzo;
 - Marche;
 - Lazio;
 - Liguria;
 - Campania;
 - Basilicata;
 - Friuli Venezia-Giulia;
- Po River Basin Authority.
 - AdBPo-PGRA Coast and Sediment Management;
 - AdBPo-District Planning;
- Ministry of the Environment;

- Land reclamation consortia;
- Coast Guard;
- Carabinieri police for the environment and forestry;
- Representatives of bathing associations;
- Representatives of fishermen associations;
- Representatives of Hoteliers / Restaurateurs Associations;
- Others:
 - Trade associations;
 - Environmental associations;
- Professionals and consultants;
- LAG Local Activity Groups (GAL in Italian);
- Natural Parks;
- Universities, educational and research centres:
 - University of Ferrara;
 - University of Bologna;
 - CNR ISMAR;
 - CEAS

Moreover, the Innovation Camp “Intergenerational Pact” for the Coast of Emilia-Romagna involved further stakeholders, namely the Fridays for Future section of Emilia-Romagna and other youth associations active on the regional territory and on the coast.

5.2 Participatory techniques and tools

Working steps and method

The team has adopted iterative working methods based on continuous improvement and adaptation of processes to the needs of the participatory activities. This approach has made it possible to customise each phase of the process and has stimulated a strong professional growth for all members of the participation team as protagonists in all its phases: analysis, planning, facilitation, synthesis and connection between their different disciplines (e.g. climatology, geology, urban planning, governance, participation, coastline and flood management, civil protection, and so on).

- A structured and shared table was prepared for **stakeholder mapping** and shared on the drive of the Participation Team so as to support a collaborative mapping activity; the types of stakeholders were also indicated in the organisational draft programme of the launch InfoDay.
- **For the “InfoDay” online launch of the participatory process and integrated coastline strategy**, the operational storyboard was drawn up and all steps were rehearsed by the members of the team involved as spokespersons.
- **“Knowledge Framework” and “Future Vision” participatory workshop for about 60 participants.** For this workshop, the first phase of “Vision Making” of the EASW method (European Awareness Scenario Workshop) has been adopted, dividing the stakeholders by interest groups and asking them to imagine a vision of the future of the Coast in nearly 30 years from now. The salient elements of this first participatory workshop “Knowledge Framework” and “Future Vision” are:
 - Share the cognitive picture, collect further information elements.
 - Develop a future vision of the coast: “How do you imagine the coast in 2031”
 - Negative vision
 - Positive vision
 - Creation of common ground: “common ground” on which to subsequently build local and more general actions.

- The meeting took place entirely online with digital video conferencing platforms suitable for interactive participation (VideoFacilitator), tools to collect ideas and display them (Mentimeter, Miro and Jamboard). Participants, divided into homogeneous interest subgroups of 6-7 people, are asked to express their negative view first and then the positive view.
- **Four territorial participatory workshops "Actions" for coastal sectors, involving 15-20 participants each.** A workshop for each of the coastal sectors: Ferrara, Ravenna, Forlì-Cesena, Rimini. For this type of in-depth activity and action planning, the online facilitation process was based on the MIRO digital tool for the visualisation, collection and harmonisation of ideas. The goal of each Action planning workshop was to focus on three main aspects:
 - Structural interventions, medium- and long-term actions and projects.
 - Beach and coast management rules and good practices.
 - Governance, Technical Coordination Committee, for the defense and management of the coast: to ensure that beyond the participatory process in the strict sense, the foundations are laid for:
 - A continuous activity of comparison between coastal municipalities and category associations.
 - Awareness on what each one or other does and so as to have coordinated and synergic actions.
 - Avoid having interventions that are disconnected or not coordinated with each other.
- **A participatory workshop "Comparison and Integration", involving about 60 participants.** The aim of this workshop was to summarise the results of the laboratories of the Ferrara, Ravenna, Cesena and Rimini coast to share, harmonise and refine the proposals for their assimilation into the GIDAC Strategy. The working method was that of listening, selection, evaluation, convergence of the proposals to move from the actions that emerged selected according to the priorities of each territory to develop integrated and shared proposals. This meeting also served to prepare the presentation to be made to other regional stakeholders and policy makers in the follow-up intermediate and final "Info Day" meetings. In this session, decision making methodologies and retrospective analysis as well as participatory polling systems with scales be used to adjust the shot and further improve proposals and actions, as per Innovation Camp and EASW.
- **Pilot consultation and survey with key stakeholders (from October to November 2021)** on the main actions envisaged by the Integrated Management for Defence and Coastal Adaptation to Climate Change (GIDAC) strategy. This new pilot activity involved using a google forms survey where the main actions envisaged by the GIDAC were divided into sections and participants could provide feedback. This was performed as a preliminary activity in view of the future use of the Decidim based e-participatory platform adopted by the Region to support consultations on all forms of participatory processes. This platform will be adopted in the beginning of 2022. This pilot consultation activity was not envisaged in the plan and was added as a way to engage more stakeholders in the future.
- **Participatory workshop** to report back and fine tune the Integrated Management for Defence and Coastal Adaptation to Climate Change (GIDAC) Strategy with the stakeholders from the Emilia-

Romagna coast, on the 16th of November 2021. This new Intermediate workshop has been added for updates on the knowledge framework and the coastal strategy and to demonstrate how the results of the participatory process have been included in the strategy. It has been performed in the fall 2021 to involve the same stakeholders that have participated in the previous phases.

- **Final "info day" meeting** on the results of the participatory process and presentation of the Strategy.
- **Opening of a "virtual square"** dedicated to the participatory path on the regional platform IoPartecipo+. This includes communication, management and animation of the square along the entire participatory process (collection of documentation, exchanges and interaction with stakeholders, insights, communications, etc.). During the project, from the second semester this technical / operational support for online communication / participation and "virtual square" animation has undergone a transformation to migrate to the "PartecipAzioni" regional platform that opened in the beginning of 2022. The new "PartecipAzioni" platform allowed for direct concurrent editing of the text, commenting, and contributing. All the texts that describe the actions were made available, making it possible for citizens to read, comment, propose changes, corrections, additions.

More specifically, the participatory process "What will the coastline be like?" adopted a **mix of facilitation processes and online tools**. The main two approaches that were used were the following:

- For the **knowledge framework and vision making process** the method that was adopted was that of the vision making
- For the **territorial action labs**, the main method that was adopted was the Safari.

The first interactive lab used the **vision making method**. Participants were asked to imagine that a time machine could bring them in the year 2050, nearly 30 years from now and to describe initially a negative, catastrophic vision, then a very positive, absolutely ideal one. The participants were distributed in breakout groups each one supported by a facilitator from the participator team. This led to the creation of a list of positive and negative visions of the year 2050 that could help to identify both potential barriers and threats and possible objectives and outcomes for the actions (see the section on the future visions below).

The interactive workshop on the **actions** of the participatory path "What will the coast be?" has adopted the methodology of the "**Safari Workshop**", or "**Safari of Knowledge**".

In this method participants were asked to contribute with ideas, insights and reflections on the following three themes:

1. Interventions, solutions and adaptations of the coastal strip to the expected and current effects of climate change
2. Solutions for the management and maintenance of the beach, and evaluations on the possibilities and perspectives of a seasonal adjustment of its use.
3. Shared working method for coastal management by the competent authorities and local stakeholders.

The participants in the workshops were organised into small groups and heterogeneous in composition: each group was made up of a distribution of subjects belonging to different categories of stakeholders (trade associations, local administrations, universities and research, etc.), to guarantee a plurality of points of view in collecting thematic contributions.

Each thematic group was supported by a professional facilitator (from the FUTOUR company) and by experts selected from the work team with the role of coordinating the discussion on the specific topic. These experts with the role of "conductors" have "visited" one group of stakeholders at a time, bringing their themes on canvases and whiteboards with post-its, sharing the challenges to be faced and collecting different ideas and suggestions from each group of participants.

With the Safari method, the ideas collected by each group are shared, enriched, refined and selected incrementally: in each workshop, the goal is to make each stakeholder group contribute to all the issues addressed at the individual stakeholder breakout groups. In this specific case, the groups were asked to speak on the issues of two out of three thematic groups.

- Thematic group A relating to the “Intervention and adaptation solutions of the coastal strip with reference to the actual and expected effects of climate change.”
- Thematic group B relating to “Beach and sediment management and fruition of the beaches all year round”.
- Thematic group C relating to the shared collaboration method for coastal management.

The process of the Knowledge Safari was therefore incremental for two of the three thematic work groups (each participant adds and builds new ideas on the basis of those who preceded him) and iterative (in each territorial workshop the method and tools are further refined to strengthen the cognitive picture).

The activity for the launch of the “Intergenerational Pact for the Coast of Emilia-Romagna” was carried out based on the Innovation Camp methodology. Documentation about the methodology can be found at this [link](#).

5.3 Accessibility to the documentation

The participatory process “What will the coastline be like?” has guaranteed a total accessibility to all the documentation that was produced in all possible formats: reports, slide presentations, videos, polls, news.

Throughout the participatory process all stakeholders, even the ones that did not attend directly the info-day or workshops, could follow every step and be updated almost instantly thanks to the virtual square.

- Every event was video-recorded, and a timeline was placed to be able to select and follow specific interventions of the speakers.

- Immediately after every event all participants and people who had registered in the virtual square “What will the coastline be like?” received a notification that all presentations, videos and pollings had been uploaded and could be consulted.
- A newsletter was sent to participants and published on the virtual square every time there were some relevant news on the topics of the AdriaClim participatory process.

The Virtual Piazza “What will the coastline be like?” is accessible for the whole duration of the process and all contents are in Italian: <https://partecipazioni.emr.it/processes/che-costa-sara>. In the second semester the Virtual Piazza underwent a total change of platform to use a more participatory tool called Decidim that allows people to make proposals, vote them, amend documents and so on. In the second semester there have been both training and design sessions to adapt and migrate from the former virtual piazza called “IoPartecipo+” to the new one called “**PartecipAzioni**”. All the material that was created and stored in the former system is being moved in the new one so as to allow everyone to have access to the documentation.

6. Synthesis of the “Preliminary report” to feed the process by Pilot Sites

6.1 What are the conditions now

The Emilia-Romagna coast is characterised by a low and almost continuous sandy beaches, with wide from a few metres to over 200 m, stretches without beach, such as inside the Sacca di Goro or in some stretches subject to strong erosion, between the mouth of the Po di Goro, on the border with the Veneto Region, and the mouth of the Torrente Tavollo, between Cattolica and Gabicce, on the border with the Marche Region.

Behind the coastal system there are, in particular in the northern sector of Ravenna and Ferrara, vast reclaimed territories, with altitudes below sea level, partly occupied by humid areas of high naturalistic importance. On the other hand, a greater anthropization characterises the southern part of the Cesena and Rimini areas, which presents widespread urbanisation and infrastructures and various natural and anthropogenic processes on a basin and local scale.

As a whole, it is a highly vulnerable area and a high risk for the natural systems, settlements and human activities present in a concentrated and widespread way. The causes of vulnerability common to the entire regional coastal territory, such as the low depth of the seabed, the low altitude of the coast, the phenomenon of subsidence, the limited circulation of the Adriatic, the influence of the Po river flows and the quantity and quality of local fluvial inputs, are added, to a greater extent in the southern sector, the anthropogenic pressures linked to the intense urbanization, infrastructures and marine-coastal tourist use of the territory.

The resident population in the coastal strip, about 500,000 inhabitants, constitutes 11.2% of the resident population in the entire Region. The population density in the 14 coastal municipalities, with an already high average value of 332.21 inhab/km² if taken as a whole, is characterised by a distribution that also reflects the settlement system, more concentrated and almost continuous in the central and southern sectors, where develops the so-called “Linear City of the Coast”, with population density values ranging from about 575 inhab/km² of the Municipality of Cesenatico, to over 2,860 inhab/km² of the Municipality of Cattolica, unlike

the northern sector, with a very more discontinuous and with a population density ranging from a minimum of about 68 inhab/km² in the Municipality of Codigoro, to approximately 350 inhab/km² in the Municipality of Cervia.

To the already considerable pressure of the population residing on the coastal territory, we must add that of the over 40 million “tourist presences” which, in the past pre-covid bathing seasons, are normally registered every year in the “Riviera System”.

6.2 What future we see for this area

After the presentation of the current knowledge framework, as part of the opening of the participatory process, the territorial working groups were involved in a first participatory workshop, in which participants were asked to express their contributions regarding the “visions” of the coast projected to 2050, both in negative terms (“...all went very badly...”), and in positive terms (“...everything went extremely well...”). Below is a summary of the ideas that emerged.

Shared Negative Visions of the Coast in 2050

- Abandonment of the territory, depopulation and migration to the hinterland.
- Erosion of the coast with loss of the tourist economy and uses of the sea such as fishing and aquaculture.
- Destruction of natural habitats, loss of biodiversity (animal and plant species). Loss of ecosystem services rendered by the coastal system.
- Social aspects. Poverty. Loss of hope, work.
- Impacting and invasive works that distort the coastal landscape.
- Inability and slowness in public and private actions.
- Difficulty in continuously managing the emergency. Inability to think in terms of complexity.
- Impact on upstream river systems. Greater flood risks.
- Risks to public health.

Shared Positive Visions of the Coast in 2050

- Restoration and reconstruction of dunes and other habitats. Leave room for marine dynamics to unfold. Reintroduction of plant and animal species with the use of funds.
- Diffusion of climate awareness and awareness in the PA, businesses and citizens of coastal dynamics and related behaviours / actions. Changes are expected, we know when and when.
- Sustainable, green and seasonally adjusted tourism.
- Integration of erosion reduction works that can diversify the marine environment.
- Platform conversion.

- Renewable energies: 100% of the coast is served by renewable energies.
- Relocations and setbacks to have safe areas and tourist beaches (“one step behind”).
- Much more collaboration between public and private. Collaborative, multidisciplinary and multilevel governance.
- Sustainable mobility. Coastal strip for slow mobility.
- Management of river basins and waterways as an element of connection with the hinterland.
- Embankments lived and manned.
- Integration between inland and coastal areas.
- Planning and synergy of the use of the sea and sustainable use of resources.

The negative and positive visions identified long term obstacles/threats and objectives/outcomes that participants could work on within the local action labs.

7. Synthesis of the participatory processes and their outcomes by Pilot Sites

7.1 The results from the initial participatory process

As one could see from the stakeholder mapping exercise and list of participants the local pilot actions involved very qualified and representative stakeholders, enriching the quality, outputs and outcomes of the process.

While the opening infoday, a webinar based on a series of presentations and polling sessions, involved over 180 participants, a total of 81 people attended the interactive online participatory workshops both for the plenary openings and closing and for the specific action planning labs that took place in the provinces:

- Forlì-Cesena, 14
- Ferrara, 26
- Ravenna, 22
- Rimini, 19

The graphs in Fig 1 show the distribution of participants per category in the four provincial action planning workshops.

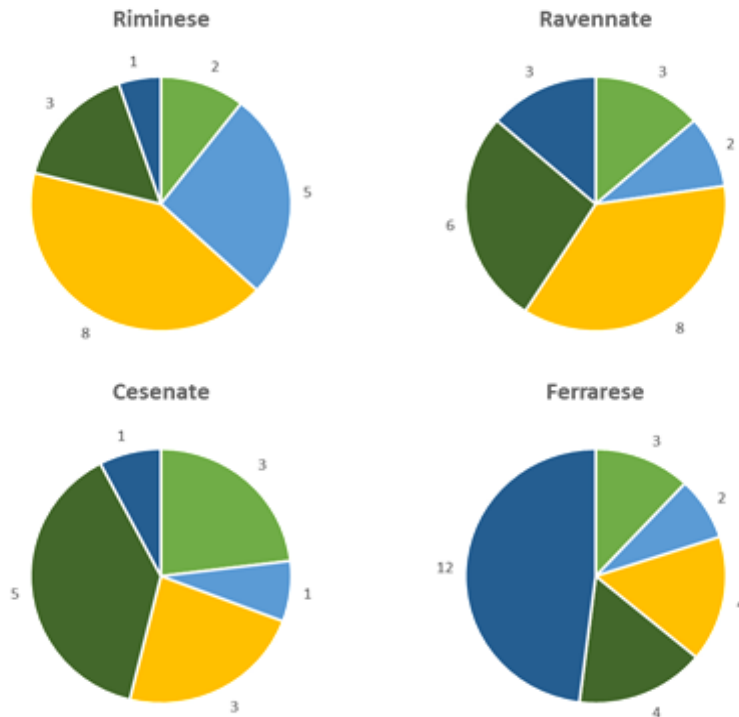


Figure 1: Distribution of participants according to the categories in the four territorial workshops.

Legenda for figure 1:

- Light green: environmental and territorial associations.
- Light blue: Trade associations, cooperatives and companies.
- Yellow: Municipalities and other territorial institutions.
- Dark green: Emilia-Romagna Region and regional agencies:
- Dark blue: Universities and research organisations.

In this section we describe the outcomes of the participatory process. The results of the action planning workshops based on the Safari method are summarised for each theme addressed by the stakeholders with the support of the thematic experts from the Emilia-Romagna Region and facilitators. The three thematic groups of the Action planning workshops were:

- Thematic group A relating to the “Intervention and adaptation solutions of the coastal strip with reference to the actual and expected effects of climate change.”
- Thematic group B relating to “Beach and sediment management and fruition of the beaches all year round”.
- Thematic group C relating to the shared collaboration method for coastal management.

Here follow the summaries for each thematic group.

Thematic group A: “Intervention and adaptation solutions of the coastal strip with reference to the actual and expected effects of climate change”.

The interventions and adaptation solutions of the coastal strip were related to four provincial areas, but the summary harmonises them to both identify synergies and to adopt specific place-based solutions where needed.

Method adopted for thematic group A

The first part of the action planning workshop that led to the synthesis and outcomes included a presentation by experts from the Area Services of the Regional Agency for Territorial Security and Civil Protection of Emilia-Romagna on the situation and criticalities on stretches of the coast of the four provinces with particular reference the current and expected effects of climate change, such as the rise in the sea level and the increase in the frequency, severity and duration of storm and high water events and therefore problems related to marine ingression and coastal erosion

Considering these presentations, the participants at this thematic group were asked to identify other critical issues affecting the area, to comment on those discussed and to propose specific solutions. Finally, they were asked to define which of the proposed solutions could also be considered in the long term.

To underline the importance of indicating critical issues and finding **specific solutions for the area**, each table worked on the cartography of the coastal stretches to which each workshop was dedicated (Figure 2).

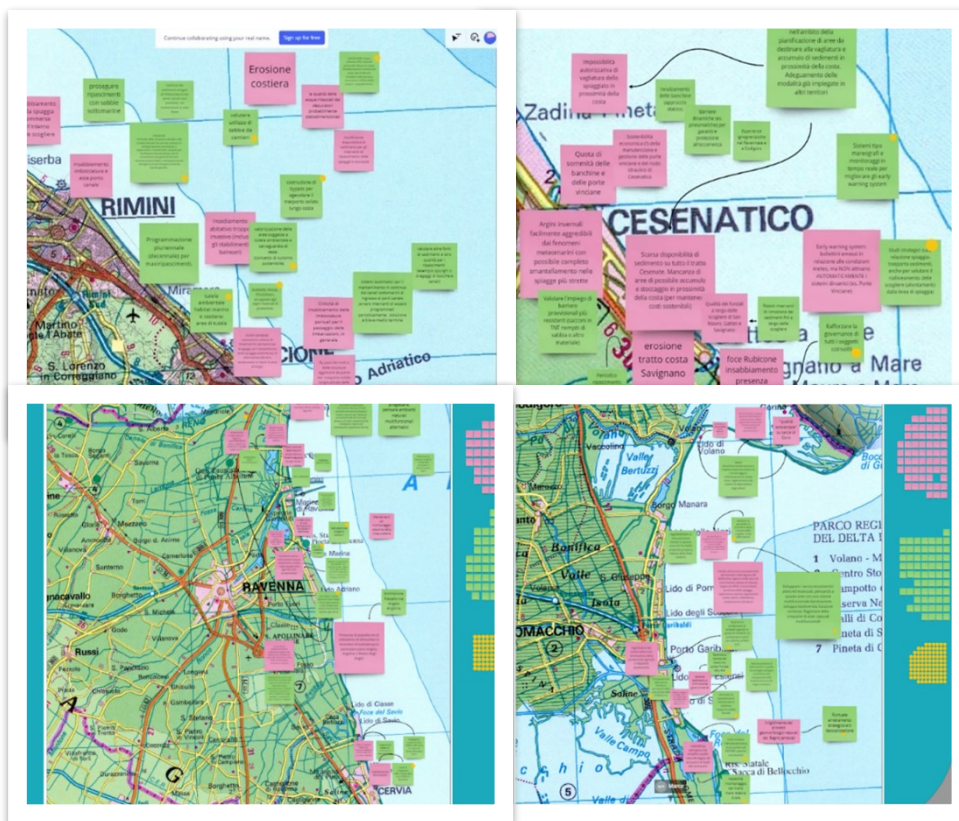


Figure 2: examples of the maps used by the thematic group on “Intervention and adaptation solutions” for the four coastal provinces.

Synthesis of the key emerging aspects for the coastal strips in the four provinces.

The participants at the thematic groups in the various territories, identified and discussed some characteristics and criticalities of the overall coastline territory that make it **vulnerable** to the impacts of climate change and the **dangers** associated with the action of the sea: the **altitude with respect to the sea level**, the presence of **urbanised, built and natural areas** in areas **exposed** to danger, and the characteristics of the beaches that make them **erodible**, determining the need for **continuous management of sediments** along the coast.

The various stakeholders contributed, thanks to their **experience in the area** and their **professional skills**, promptly indicating some **specific situations** regarding the phenomena in progress (see the lists of **criticalities** and **solutions** in the various territorial areas in the report in Italian).

Among the most felt critical issues, transversal to all territorial areas and working maps, those related to **coastal erosion** phenomena, the **low supply of sediments from waterways** and the consequent **limited availability of sands for sand replenishment interventions** to keep the beaches at a normal state, were highlighted by all stakeholders. At the same time, critical issues related to the **management of sediments** in

the **port area** and the **alterations** of transport along the coast, as a **consequence of the rigid infrastructures and works**, were reported in all the areas.

In this sense, it emerged that it would be appropriate to **rethink the defensive system**, realigning, removing the rigid works and possibly restoring the functionality of the existing ones. This urgency is generated both by the fact that the works are often **no longer adequate** for the purpose, and because they themselves become the **source of other problems** (e.g., poor water circulation, etc.).

"Hot" issues were also found to be **subsidence**, specifically in some areas, and, more generally, the **inadequacy of the territory's height above the sea level**, with respect to marine ingression phenomena in the current conditions and, even more so, in those where this can be expected to happen due to climate changes.

Another recurring and transversal criticality is that relating to the **excessive anthropogenic load** on the coastal strip, with a **dense and intrusive urbanisation** that leaves few free spaces and makes the **territory inflexible**. This general **tightening** limits the possibilities of adaptation to environmental conditions in continuous and rapid evolution, already particularly critical today, but which foresee an aggravation in the scenarios of expected climate change.

Again, the criticality of the **salinization of soils and inland waters** is recurrent, with concern for the consequent transformation of land and natural habitats, with the risk of **loss of agricultural production and biodiversity**.

Finally, criticalities emerged regarding the difficulties or **impossibility of guaranteeing** in the medium (but also short term) the conditions of **ecological functionality of coastal natural systems**, such as lagoons, pine forests, dunes, etc.

Recommendations and conclusions

Among the most significant and innovative elements reported by the participants, the request for **innovative solutions to reduce erosion** is certainly worth noting (for example with submerged permeable barriers) and consequently reduce the need for sand replenishment interventions.

Furthermore, the need to envisage coastal territory planning actions in the medium term that can favour greater adaptation to different environmental conditions, i.e., a **planned retreat** and the return of **flexibility** for the territory, re-naturalizing excessively occupied areas. For example: the creation of new natural environments in inland areas, the relocation of some activities and infrastructures that have an **excessive exposure to risk** or for which an effective defence cannot be foreseen in the long term. In fact, there are elements on the territory exposed to danger for which **realistically there are no effective defence methods**, except in the very short term.

In addition, the following are also worthy of note:

1. the need to favour the **influx of sediments** from waterways through a remobilization of sediments in the river basins.
2. the reduction or blocking, where possible, of the issue of new **concessions for the exploitation of hydrocarbons** to mitigate the risk associated with **subsidence**.
3. the reconstruction, where possible, of the **dune belt**.

In terms of policies, the most relevant need that emerged from the thematic group is to provide for a broader **programming of economic resources for coastal defence** (medium and long term), therefore beyond the ordinary three-year period, and above all to **eliminate uncertainty**, recurring with respect to the **financing** of the interventions.

Further indications concern the **choices of territorial and urban planning** that must favour the reduction of the stiffening that characterises the coastal territory, providing for the relocation of exposed elements that are no longer defensible and, where possible, favouring a **planned retreat**.

Other recommendations concern the promotion of policies aimed at increasing the use of **renewable energies** in the coastal area (a "zero impact coast") and supporting **actions to adapt to productive activities** (agriculture, tourism-seaside sector, etc.) to the changed environmental conditions, such as: cultivation transformations, destination of agricultural areas to natural coastal areas, redevelopment and raising of the quotas of bathing establishments.

Thematic group B: "Beach and sediment management and fruition of the beaches all year round".

Method adopted for thematic group B

This thematic group worked on two sub-themes:

1. the management of beaches and sediment resources internal and external to the coastal system;
2. shared methods rules for the fruition of the beaches also in other seasons besides the bathing, summer season.

Sub-Theme 1: management of beaches and beach sediments and sediment resources internal and external to the coastal system

In this theme, the participants reflected on the indications extracted from the "National Guidelines for the Defence of Coasts from Erosion and the Effects of Climate Change" developed by the National Table on Coastal Erosion - TNEC.

A selection of the main indications on the use of sediments taken from these Guidelines was presented to the participants by the facilitators and thematic experts. Each indication was written on a repositionable virtual sticky note.

Together, the participants discussed one indication at a time and, using a table with three columns, to establish their position relative to that indication in terms of **MUST - SHOULD - CAN**

- **MUST:** mandatory, necessary, critical solutions for the activity.
- **SHOULD:** strongly recommended solutions, advisable.
- **CAN:** optional but definitely useful solutions.
*e.g.: an indication from the Guidelines stated: "Prohibit the use of the sands of the shoreline and / or in front of the imposition line of the embankments". Do you think this measure **must** (absolutely), **should** (hopefully) or **could** only be implemented?*

Participants were also invited to provide any comments and give their motivation on a canvas table including the three alternative choices (see the example in Italian on Figure 3).



Figure 3: Table "MUST-SHOULD-CAN" to evaluate the opinion of the participants with respect to the "National Guidelines for the Defence of Coasts from Erosion and the Effects of Climate Change"

Sub-Theme 2: Shared methods rules for the fruition of the beaches also in other seasons besides the bathing, summer season.

In this theme, the participants freely discussed the issue of the "seasonal adjustment" for the fruition and use of the beach.

The discussion was structured so that participants could share their ideas, discuss and place them in a table that had three alternative quadrants answering the question "Is it necessary, desirable or possible to use the beaches also in other seasons in addition to the summer/bathing one?":

- **No, because?** Describing why the beach should not be used in other seasons.
- **Yes, because?** Describing why the beach could be used in other seasons.
- **Yes, How?** Describing under what conditions could we use the beach in other seasons.

The goal was therefore to collect the opinions on this issue from the various stakeholders invited to participate, each according to their own point of view. Furthermore, to establish together proposals for shared modalities and rules to reach, if desired, the seasonal adjustment of the use of the beach.

For each position expressed by the participants, where possible, it was also asked to specify the methods proposed for use ("Yes, how ..."). See an example of the interactive board used by the participants to propose ideas and solutions on the de-seasonalised use of beaches in Figure 4.



Figure 4: Canvas table on “No, because?”, “Yes, because?” and “Yes, how?” relating to the theme of de-seasonalised use and fruition of the beaches.

Summary of the elements that emerged on the topic MANAGEMENT OF BEACHES AND RESOURCES OF SEDIMENTS

Common goals expressed.

A strong **awareness of the importance of the sand resource has emerged**, which must be well managed and preserved in order to:

1. Ensure the **subsistence of the coastal-maritime economies** that depend on it, such as seaside tourism and aquaculture.
2. Guarantee the **subsistence of coastal ecosystems**, on which both the safety of the territories / inhabited areas behind the beach system and the life of numerous **species** and the maintenance of an adequate degree of **biodiversity** depend.
3. **Protect and reconstruct the system of coastal dunes**, for the functions that they perform of **protection** of the territories (from marine ingression, from the intrusion of the salt wedge, etc.), of **habitat** and preservation of **biodiversity**, very different from the functions of simple accumulations of sand (e.g. winter embankments) which are useful for the temporary defence of establishments and promenades.

Conclusions and recommendations

- **Feeding of beach systems and reduction of sediment losses.**
 - **All participants expressed the need to have homogeneous regulations on the regional territory** that includes indications to reduce sediment losses from the beach system and to favor the use of sands recovered from construction excavations and from other sources in the coastal area, for sand replenishment purposes in the beaches, the promotion of greater protection of existing coastal dunes and their reconstruction if they are no longer present. There is awareness of the importance of **sediments external to the system** (such as

submarine sands and those from construction excavations) to ensure the supply of current beaches with "new resources" of sediments external to the coastal system.

- Great attention is paid to the use of **sands from construction excavations**, a practice that is possible and regulated only in some municipalities. In all the working groups this indication was placed in the "**MUST**" (obligatory, necessary, of critical importance), but the need to **develop clear regulations, homogeneous on a regional scale**, also regarding the **analyses** for their characterization.
- In general, the importance (MUST) of a correct chemical / physical characterization of the sediments brought in from outside emerges (**including submarine deposits**) and of the verification of compatibility of the target areas. Similarly, the planning of interventions at the regional scale is considered fundamental (MUST).
- The concept is acquired that **solid transport of sediments by rivers is minimal**, resulting in undernourishment of beaches. **Studies on hydrographic river basins are needed** on this issue and to evaluate actions to improve the transport of sediments useful for the natural sand filling of the beaches.
- **About solid transport, it emerged that experiments MUST/SHOULD be carried out to recover the sediment trapped by the hydraulic and damming works, also through by-pass techniques**, but on this we need to investigate, to avoid removals that may alter the stability of works or profile of watercourses.
- Regarding the use of **sediments from internal sources**, the debate among stakeholders was more articulated and some problems emerged. In the first place, it is thought that **authorization procedures MUST OR SHOULD be simplified, provided that an adequate information system is available**, and that decisions must in any case be assessed on a case-by-case basis. For the accumulations of the rear reef, there is greater perplexity also because in some areas those sites are intended for the breeding and collection of mussels. Also in this case, homogeneous procedures and regulations on a regional scale would be needed.
- **Beach cleaning operations, windbreak barriers and winter protection embankments**
 - **In all working groups, the indication on the screening and recovery of sediments in beach cleaning operations** was generally placed in the "**MUST**" field (mandatory, necessary, of critical importance). More than for the construction of the winter embankments, the importance of these sediments in preparing the beach bed before the start of the bathing season is emphasised. The sediment obtained from the screening, in fact, could be a bit heterogeneous to be used on the surface. Much also depends on the screening techniques. **A very relevant indication that emerged is to define a regulation that makes this practice possible everywhere (e.g., feasible in the General urban plans (PUG) and plans for the beaches (Piani arenile)). Currently in some places it is not practicable, there are no accumulation areas, and the sediments are taken to a landfill.**
 - Regarding the cleaning of the beaches, and in particular the practice of removing the **woody material**, there are different positions. The indication NOT to remove these residues, which act as a trap for sediments mobilised by the wind, has been placed in the "**CAN**" (optional, but certainly useful) as it is considered impractical on bathing beaches. There is a common understanding of the importance of applying this rule in the most natural areas ("**MUST**").

- Regarding the **construction of the winter embankments, the use of sands from outside the beach system is especially recommended ("MUST")**. In fact, they would constitute an additional supply when flattening the winter embankments, in preparation for the summer season, rather than materials from the beach itself. However, greater preparation of the operators is needed to correctly implement this intervention, restoring a suitable share of the beach. The **ban on the use of shoreline sands** for the construction of the embankments themselves is instead indicated as a "**SHOULD**" (strongly recommended, advised), because now it represents a cheaper practice than procurement from external sources.
- Regarding the use of **windbreak barriers**, to reduce the loss of sediment towards the hinterland, both **positive and negative aspects** emerge, among the latter the **visual impact**. **The need for greater knowledge and experimentation is emphasised to understand the real benefits and possible applications in different cases and local conditions.**

Summary of the elements that emerged on the topic USE OF BEACHES ALSO IN OTHER SEASONS THAN THE BATHING ONE

Common goals expressed

A general favourable position has emerged for the use of beaches in the winter season because it is believed that deseasonalization can lead to further economic development and use of the coastal system and a reduction in pressure in the summer period. However, precise indications and precautions are needed for what it concerns the environmental aspects and the safety of citizens.

The use of the beach and the back beach (pine forests, parks, urban areas) for sporting and recreational purposes and to raise the awareness of the coastal environments in their essence is generally welcomed. Therefore, according to participants: "Yes to a seaside city that lives 12 months a year".

Tips, recommendations

The importance of creating a 'culture of the coastal environment' is strongly emphasised, which is not just a space intended for bathing and which must be properly cared for and protected. This would also favour the control of these areas and a greater liveliness of the coastal urban centres otherwise deserted in some seasons.

Finally, the importance of:

- do not allow the construction of new plants or infrastructures,
- **guarantee the safety of people** by verifying the feasibility of the initiatives based on the issued weather forecasts and alerts,
- all activities are organised in such a way as to **respect the environment and coastal morphologies** and, especially during the periods of **reproduction of the protected species**

Thematic group C: Shared collaboration method for coastal management.

Method adopted for thematic group B

This thematic group focused on the definition of a working method shared between entities and stakeholders for a more rational planning and governance of human activities, coastal management and interventions on the coastal strip. This was performed with a view to implementing the strategy for Integrated Defence Management and Coastal Adaptation (GIDAC) in relation to the effects of climate change.

In this thematic group at each provincial action planning meeting new ideas have been added and new approaches and methods have been integrated or proposed on the basis of previous meetings. This incremental method made it possible to refine and strengthen the picture that emerged at each previous workshop. Figure 5 below describes an example of the canvas in Italian that was used to discuss, brainstorm, cluster and agree on possible solutions for the future collaboration among stakeholders of the coast:

Below is a summary of the issues that emerged as a result of the four territorial workshops.



Figure 5: Table on the issues identified for collaboration between stakeholders referring to: "WHAT TO DO? What objectives do we agree on?" and "HOW TO DO THEM? Through what actions?"

To the question: "What can we do to give continuity to the collaboration for a better planning of interventions on the coastal strip?", participants were asked to answer, trying to define:

- WHAT TO DO, choosing on **which themes/objectives** to collaborate, and give continuity to the collaboration.
- HOW TO DO IT, choosing the **actions, tools and methodology** to collaborate for the shared governance method to manage the coastal strip.
- WHO TO INVOLVE, **identify the stakeholders and key actors** who should be involved in the future coastal adaptation strategy.

The main themes identified were:

- Guiding principles of collaboration and organisation

- Participation, communication and awareness
- Adaptation strategies in the coastal strip
- Coastal re-naturalization projects
- Coastal defence and management
- Coastal water quality
- Technological innovation

Summary of the emerging principles

The thematic group that dealt with the issue of defining a **shared and collaborative working method** for coastal management focused on some key issues that have brought out **ambitious objectives** as well as proposals, both methodological and content, to achieve them.

Shared management of the coastal strip

- The desire that emerged in all the stakeholder working groups is the aspiration to an **integrated, participatory, multidisciplinary and shared management of the coastal strip**, in which all the identified "stakeholders" (up to the final beneficiary/users) can express their ideas as authoritative subjects, to be listened to and to speak in a useful way.
- **"WHAT"**
 - The first assumption was in fact the maximum involvement of the **"territorial actors"**: not only the public administration and institutions traditionally involved in territorial decisions, but every type of interlocutor.
 - The **multiplicity of voices** must first lead to a broader and deeper knowledge framework, where **everyone will contribute** with their own skills and experiences. Listening must be dedicated to the stakeholders from the sectors of **knowledge, culture and research**, with the awareness that, immediately, the decisions must necessarily **look** at least to the **medium and long term** and be as far-sighted as possible, because only with this perspective will it be possible to achieve the **desired vision** for the coast.
 - The participation of individuals with national and international experiences (not only local or regional) can also help **define pilot experiences and case studies** to be adapted to different territorial realities as good practices, with the aim of **defining an effective replicable model**. In this sense, the Emilia-Romagna Region is **rich in positive experiences**, which have the advantage of being already suited to the local context: **priority** should therefore be given to **good local practices**. A good example of collaboration between different economic stakeholders is that of the **Fishery Local Action Group (FLAGs): Community Led Local Development (CLDD)** groups of local economic operators in aquaculture, fishing, seaside tourism, etc. organised under the **European Maritime and Fisheries Fund (EMFF) Operational Program 2021-2027**.
 - It is also crucial for the true involvement of stakeholders that the **thematic discussion groups** are not only for **information and dissemination**, but also **proposing and guiding**.

- It is also necessary that each actor involved creates an internal working group, with a **specialised team** to work on these issues. The **multidisciplinary** nature of the participating subjects will make it possible to build a broad and detailed cognitive framework that will form the basis of a common strategy that is effective on different scales of intervention.
- **"HOW"**
 - To achieve these objectives, two different but interconnected solutions have been proposed:
 - Establish the **"Pact for the coast"** or **"Coastal Contract"** on the model of the River Contract, the in which all stakeholders **share a series of common objectives** for the future of the Emilia-Romagna coast, and, **through a synergistic and integrated action**, they contribute to elaborating an overall strategy, which is realised through actions (also sectorial but coordinated) to reach the established objectives. Also, in this case we imagine having to work with the principle of subsidiarity but having a great common vision in the background.
 - Establish **"Permanent Councils"** at the local level. These represent an advanced form of decentralisation, with decision-making and spending capacity; they can monitor, maintain, manage and solve problems of a purely local scale in an effective and timely manner. The councils must be an instrument of participatory democracy that allows citizens to be part of the decision-making process together with public and private stakeholders.
 - In this perspective, the **plenary moments** and those of **"local" work on the field** alternate. In this hypothetical organisation we work for technical and thematic tables which then, through spokespersons, find themselves **representing the requests** in plenary situations in which the **proposed choices** and the **proposed path** are verified, monitored and possibly corrected. As already pointed out, there must be room for co-design and therefore the true sharing of choices. Each stakeholder contributes by enriching the framework of knowledge and bringing his requests and contribution.

Participation, awareness and communication

- In parallel, the various sessions enriched the question posed on how to participate, raise awareness and communicate with ideas.
- **"WHAT"**
 - The **objectives** in this case are **multiple** and primarily concern **raising awareness** of the **culture of participation** in order to **move from "lamentation" to participation**: this presupposes a growth in **trust** in institutions, overcoming **mistrust** among stakeholders (especially towards those perceived as "external" to the territory). In this sense, it is essential, as part of a participatory process, to **show that everyone is taken into consideration** and considered an important and reliable interlocutor and to build awareness that it is possible to be heard and to contribute.

- This paradigm shift in the participatory process means **overcoming the usual practices of involvement** (the classic “consultations” and “observations” to plans and projects) **towards a more inclusive participatory model** that is **complementary to institutional governance**.
- It is also noted that administrators find it hard to make choices that may immediately **turn out to be unpopular**. **Awareness** of the progressive **risks** inherent in climate change is not yet a sufficient engine for **prompt action**. Communication and awareness raising also has the objective of overcoming the inertia of citizens and decision-makers with respect to the urgency of action on adaptation to climate change: if a **good communication plan** would spread this awareness, political decision-makers could be more **far-sighted**, having the **support of stakeholders and all citizens**.
- In any case, administrators should make their **decisions based on scientific data** and elements of knowledge (evidence-based decision making) and must be made **responsible for their decisions**: the choices should always be **attributable** to who made them, how and why, thus creating **leverage** to action.
- Furthermore, for a more effective and proactive participation, it is important to ask **clear and simple questions** that the interlocutors can answer.
- **"HOW"**
 - The actions imagined with respect to these objectives concern above all the **definition of a common language** in which all the different interlocutors can recognize and share, the **"glossary of the coast"**.
 - Using this language, the Public Administration will be able to **spread knowledge and stimulate discussion** through:
 - Reports on previous experiences, experiments in progress, monitoring of the state of affairs.
 - Updates on the website of the local authority, giving account of the results of the participation and of the processes even in the small concrete outcomes.
 - "Virtual square" to receive proposals from local actors on simple platforms that can be used by anyone.
 - Dissemination of good practices, local and otherwise.

7.2 Updating and consulting with the stakeholders with the emerging GIDAC strategy and knowledge framework.

In the second semester the initial outputs of the participatory processes were analysed and transformed in a series of possible actions and measures that can form part of the updated knowledge framework of the Integrated management for Defence and Coastal adaptation GIDAC.

The two main activities performed in this period were:

1. a pilot stakeholder consultation on the GIDAC actions and;
2. the organisation of the participatory workshop to update participants on the GIDAC actions.

The pilot stakeholder consultation and survey (from October to November 2021) was performed to gather feedback from the stakeholders on the main actions envisaged by the Integrated Management for Defence and Coastal Adaptation to Climate Change (GIDAC) strategy. This new pilot activity was performed with a google forms survey where the main actions envisaged by the GIDAC were divided into sections and participants could provide feedback. This was performed as a preliminary activity in view of the future use of the Decidim based e-participatory “PartecipAzioni” platform adopted by the Region to support consultations on all forms of participatory processes. This platform will be adopted in the beginning of 2022. This pilot consultation activity was not envisaged in the plan and was added as a way to engage more stakeholders in the future.

he participatory path carried out and represented up to now has made it possible to arrive at a first draft of the document of the GIDAC Strategy. This document presents a first articulation of adaptation actions, the formulation of which is also the result of the work carried out in interaction with stakeholders. The GIDAD actions themselves were subjected to an (online) survey of the same subjects in October 2021.

The survey received, at the time of the workshop (November 16, 2021) responses with contributions from Confcooperative Ferrara, Municipality of Cervia, CNR ISMAR, Ambiente Italia, Cooperativa Bagnini di Riccione.

The survey remained open online (<https://forms.gle/ZNiGfsNsouHUJPBm9>) until december to collect further suggestions and proposals until the transfer of the Piazza to the new regional PartecipAzioni portal (scheduled for the first quarter of 2022).

The online survey relating to the first proposal for actions to be formulated as part of the GIDAC Strategy required participants to express for each type of proposed action, by expressing any comments, observations or questions within the 2nd of November 2021. More specifically the participants were asked to evaluate each action according to a scale. In particular:

- A. How do you evaluate the proposed action? (very important, important, less important)
- B. What would you suggest for its implementation? That is, how to implement it and with which guidelines?

Furthermore, with respect to the proposed actions, participants were asked to indicate if something was missing in the proposed actions or if there are any other important actions to consider and how they would suggest implementing them.

Participatory interactive workshop to report back and fine tune the Integrated Management for Defence and Coastal Adaptation to Climate Change (GIDAC) Strategy with the stakeholders from the Emilia-Romagna coast. The workshop took place on the 16th of November 2021. This workshop provided updates on the knowledge framework and the coastal strategy showed how the results of the participatory process performed in the previous semester were incorporated into the coastal management strategy. The participatory workshop was performed in the fall 2021 and involved the same stakeholders that participated in the previous phases.

We briefly summarise the main findings from the event of the 16th of November where the participation team and services of the Regione Emilia-Romagna presented the state of the art of the coastal strategy and next steps.

The initial part of the event described the **main guidelines and objectives** of the GIDAC strategy. This section was presented by Roberto Montanari of the Emilia-Romagna Region coastal defence service.

In the participatory event, the key elements of the AdriaClim project are initially taken up and summarised, in particular for the benefit of those new to the participatory path. Therefore, first of all, the general and specific objectives of the project were stated again.

- General objectives of the Interreg AdriaClim project:
 - improve the resilience of coastal systems to climate change;
 - plan for adaptation and develop mitigation strategies;
 - improve information about the climate of marine and coastal areas, making them more accurate, reliable and with higher resolution;
- Specific objectives of the Interreg AdriaClim project:
 - develop a marine-coastal risk management system;
 - develop an integrated tool for monitoring, forecasting and risk assessment;
 - produce knowledge for the benefit of Local Planning, reducing uncertainties;
 - support Strategic Planning;

Subsequently, the project path was described, in its various stages and development times, with a particular focus on the pilot activity in Emilia-Romagna and the "milestones" achieved and to be achieved in the next phases of the project). The phases and workshops of the Participatory Path for the development of the GIDAC Strategy of the Emilia-Romagna region are recalled: Opening InfoDay, participatory construction laboratory of Future Visions and initial knowledge framework, territorial workshops on local criticalities and solutions for coastal provinces, plenary workshop for comparison and integration of the elements that emerged. For instance, from the common visions between the stakeholders who participated, gathered thanks to the interaction methods, it was possible to formulate a "strategic vision" for the Emilia-Romagna coast:

- The coast of Emilia-Romagna: a safe, resilient and sustainable harbour
- An industrious place for people to meet and exchange, welcoming and safe, capable of adapting to climate change and combining development with environmental sustainability,
- a space reorganised in its functions of protection of the hinterland, economic, social, recreational, environmental,
- in its methods of access and use, use and management,
- rebalanced from an ecological point of view,
- lightened compared to the current load exerted by anthropogenic pressures.

A further update of the **knowledge framework** was presented with respect to the physical and ecological state of the coastal environment in Emilia-Romagna and the impacts attributable to climate change. The report addressed four issues:

- Classification: landscape, layout and use of the territory, historical and recent geological dynamics
- Risk phenomena: state of the art on phenomena indicators critical points future scenarios

- The defence system: state of the rigid works and of the nourishment interventions of the sand resources
- Strategic interventions for adaptation: census of redevelopment and / or adaptation interventions

In particular, four focuses were illustrated in this new reflection on the updated knowledge framework:

- Coastal indicators for risk management.
- The risks, investigated from a territorial point of view, or by analysing 5 main critical areas:
 - Northern Ferrara beaches;
 - Reno mouth area;
 - Ravenna South Lidos;
 - Cesenatico Ponente and Valverde;
 - Riccione sud Misano.
- defence systems (with updates from the catalogues of defence works and nourishment);
- finally, a focus on redevelopment and / or protection interventions, with the results of the census of interventions currently underway or implemented.

Description of the **systemic actions, actions and interventions for adaptation, actions and maintenance and adaptation interventions**. The actions that currently make up the proposal that articulates the GIDAC Strategy were illustrated. These actions, as we have seen, have been organised into three main categories:

- Systemic actions. These actions are intended to "create a system", or to operate on the governance system of the coastal territory and for an overall and synergistic management of the coastal system.
- Actions and interventions for adaptation. These actions focus on adaptation, intended mainly as an increase in the resilience of the coastal strip with respect to the risks brought or exacerbated by climate change.
- Actions and maintenance and adaptation interventions. Finally, these actions aim to respond to the objective of adapting and maintaining the defence works and the beach system efficiently, for its territorial, economic, social and environmental protection functions.

The actions were presented by the speakers for each category, with details on their formulation and implementation.

The Emilia-Romagna Region intends to continue and further strengthen the participatory approach to the development of the GIDAC Strategy, as well as for other ongoing participatory processes and others that will be launched, and in this sense is preparing **a new portal dedicated to participation, developed on the platform "DECIDIM"** and at the same time the new Emilia-Romagna Participation Portal (with a migration from the current ioPartecipo + regional portal).

The Decidim platform is based on open-source software and has a very active European community of developers. It has, among the new features, the possibility for citizens and stakeholders to make proposals, receive consent (or disagreement), vote on proposals, share them, etc. Users are at the centre: they choose what to participate in, receive information, can share their proposals, receive feedback for their

commitment. From the first quarter of 2022, the first participatory processes shifted onto the *Decidim* online platform.

After the presentation of the GIDAC actions and the surveys commenting on the actions themselves, there was a further **participatory phase**. This had the aim to **collect opinions and comments to complete the main picture** of those already presented, or to answer the question "**Compared to the actions proposed so far, is something missing?**", As had already been proposed in the preliminary survey (see paragraph Partial evaluation survey of the actions of the Strategy). The participants were divided into working groups facilitated by the project representatives.

The proposals of the working groups were then shared in the plenary session. The proposals that emerged are summarised here:

- On the subject of defence works at sea, it is proposed to also consider the experimentation of new technologies, solutions (e.g. different types of submerged permeable barriers) and "nature based solutions" (e.g. seagrass oceanica).
- Build a database for the exchange of sediment quotas and available excavated earth, accompanied by coordination between the municipalities of the coast to manage the exchanges (e.g. Flanders model).
- Involve citizens, and especially schools, in the choices of actions at the local level; organise information days to put 'small citizens' in contact with naturalistic associations.
- Solutions should include and involve the population, investigate social, health, risk acceptability, to decrease social and structural vulnerability in response to risks and events.
- The Pact for the coast could be an opportunity to communicate with citizens and operators living on the coast, create greater awareness and form a resilient community to face it is necessary to form a consultation with public and private subjects on the problems of coastal adaptation.
- the Pact for the Coast could also serve to form an organism that closely follows the actions and works.
- Experimental actions of new coastal defence systems (eg. Vmesh, reef ball, etc.).
- innovative defence interventions should be strengthened more; also think about "protected" nourishment interventions.
- Make the plans prepared, including for example SECAP, PUG, Territorial Plans, more coherent with each other and with the GIDAC Strategy.
- An overall review of the defence systems would be needed;
- The debate has focused on submarine deposits, for nourishment: are there still any? and if so, for how long? It is necessary to evaluate the sand system in a broader view and consider it as protection not only as temporary reservoirs.
- Deepen coastal defence experiments using rigid permeable soft barriers, so as to prolong the effects of the "project designers", given the limited availability of offshore sands.

Following the conclusion of the participatory process of co-creation of the Strategy, a first overall draft of the document was drawn up, consisting of 6 Sections (as is now), submitted and made available for the public consultation. The aim was to widen the audience of stakeholders and to give the opportunity to all citizens to comment and contribute (in addition to the about 80 stakeholders who had participated in the workshops of May and November 2021). The Public Consultation phase took place online, on the new regional platform "PartecipAzioni", from April 5th to June 6th, and was launched with a seminar in which representatives of Regione Emilia-Romagna illustrated the contents of the various parts of the document and explained the interactive functionality of the platform itself: how to navigate the document and how to leave comments, remarks and integration proposals.

The attention was deliberately drawn to "Section C - Implementation Guidelines" of the Strategy document, that is the core of the GIDAC Strategy. The intention was to collect as many contributions as possible particularly on this part. Although the document was entirely available for comments, Section C has been publicised on the "PartecipAzioni" platform exploded into chapters and single paragraphs, in order to collect specific on point comments and remarks.

In the two months of open consultation, 46 contributions and support were received from municipalities, operators and trade associations, universities, citizens, environmental associations, of which 35 were made through the "PartecipAzioni" platform and additional 11 were received via e-mail. For Regione Emilia-Romagna, this result is satisfactory both in terms of the participatory process, as well as for the good reception and functionality of the new "PartecipAzioni" platform (based on Decidim) that the Region had just launched in February 2022.

The results of the Public Consultation were elaborated and collected in a dedicated report: <https://partecipazioni.emr.it/processes/che-costa-sara#:~:text=Restituzione%20consultazione%20sulla%20parte%20C%20della%20strategia%20GIDAC>

The report, a "Restitution document" containing details about contributions accepted totally or partially or rejected with motivations, was published in June 2022 on the section "Piazza Che Costa Sarà?" of the "PartecipAzioni" platform, <https://partecipazioni.emr.it/processes/che-costa-sara/f/83/posts/124>.

Overall, there were:

- 9 fully accepted comments and reviews,
- 23 partially accepted (with partial reformulation of the user proposal, clarifications and/or additions),
- 4 contributions that were found not acceptable (to which the user has received a response, explaining the reasons for rebuttal)
- 4 answers to specific questions

The Strategy document was then integrated according to the indications in the above-mentioned report about the Public Consultation phase and shared with the various regional administrative sectors involved, for further refinements.

The success of the Public Consultation on the GIDAC Strategy, above all, shows clearly that a great attention to the issues of the coastal zone is diffused among different stakeholders and a desire to participate and contribute to the protection of this environment.

8. Closing remarks on the experience, future implementation and transferability

The participatory process of the Emilia-Romagna Region involved all the key stakeholders of the coastline in a very effective participatory process. The strong commitment and involvement of the internal key technical and political staff of the region ensured a strong ownership of the challenges, problems and possible solutions from the very beginning. It also helped to map the stakeholders and engage them in all the steps of the participatory process, from the initial info day throughout the other workshops on the knowledge framework and visions, the action planning workshops, the convergence workshop, the restitution workshop and a public consultation phase. The transferability of this experience is given by the participatory methodology, applicable in other territories and topics contexts, and by the methods used for stakeholder engagement, restitution of outputs and local partnership consolidation, illustrated in this report.

The participatory processes adopted in the pilot area of the Emilia-Romagna region were fundamental for the preparation and effective implementation of the coordination and adaptation plans. The Regional team of experts applied in a very effective way participatory processes to all the phases of the project and this led to a strong stakeholder engagement, a deeper knowledge framework and very innovative solutions and suggestions from the diverse stakeholders that contributed to the first phase of the project.

After the initial participatory phase to gather visions, critical points, and suggestions on how to deal with through the participatory process on the field, in the second period it was adopted a more analytical participatory processes to gather further feedback and fine tune the Integrated Management for Defence and Coastal Adaptation to Climate Change (GIDAC) Strategy, thus preparing it for broader consultations with a wider public. So, through an emergent process the initial small group that was involved in the first participatory phase has prepared the ground to involve a much broader spectrum of stakeholders through e-participation tools and approaches such as the ones that can be performed with the Decidim that constitutes the backbone of Emilia-Romagna's participatory platform called PartecipAzioni.

Supported by the possibilities offered by the technology of the PartecipAzioni platform, the Public Consultation phase resulted in a very productive activity, where involved citizens and stakeholders could work hands-on on the Strategy, bringing their contributions. The participatory process of the GIDAC Strategy was the first experience using this new platform for Regione Emilia-Romagna. The results were very satisfactory.

The finalised Strategy Document and related Annexes were published on the web page of the Sector <https://ambiente.regione.emilia-romagna.it/it/suolo-bacino/argomenti/difesa-della-costa/gidac/gidac-dicembre-2022/>. Its implementation is foreseen in the next years through regional and local instruments and followed by a dedicated monitoring system on its advancement and efficacy in regards of its objectives.

Finally, it should be mentioned that Regione Emilia-Romagna took the opportunity of extending and improving the participatory process initiated within project AdriaClim, launching the so called “Intergenerational Pact for the Coast of Emilia-Romagna” through the means of an “Innovation Camp” project, funded by the “Science Meets Regions” programme of the EC Joint Research Center.

The “Intergenerational Pact” aims at involving younger generations in the governance of the GIDAC Strategy implementation and bring junior citizens, activists and professionals to work side by side with senior experts and administrators to act for the future of the coastal environment and society.