First Pilot Review Sessions on PAs advancement

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D.5.3.1

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1. Introduction

1.1. Deliverable description

The deliverable 5.3.1 “First Pilot Review Sessions on pilot actions advancement” aims to describe the status of each pilot action (PA) and their relative progresses with respect to the previous steps. Moreover, an argument is made about the KPI adopted by the project partners (PPs) to monitor their actions. In the first section of the deliverable, some generalities are resumed from the consolidated documentation in order to introduce the subsequent discussions, which focus on the different macro-themes in which each PA is clustered.

1.2. Objectives

First task in this phase consists in verifying how PAs are developing. PAs are grouped according to their macro-theme (according to the deliverable 5.1.1 “Pilot action development methodology”) and then individually analysed, reporting eventual issues faced by PPs. Suddenly, eventual common threads between objectives and KPIs of different PAs are investigated.

1.3. Pilot Actions classification

As described in the deliverable 5.1.1 “Pilot action development methodology”, the 25 PAs are classified as follows (Figure 1) according to their macro-theme, and, eventually, to their sub-topic:

- ICT application and service development (ICT)
    - Promotion of ports’ resources and territory
    - Monitoring of seaside and landside port areas
    - ICT services for local mobility transport
    - Management of port operations and services
    - Harbour and navigation safety
- Spatial planning and management (P&M)
- Business oriented aspects
- Training and knowledge aspects (T&K)
- Environment and energy aspects (E&E).

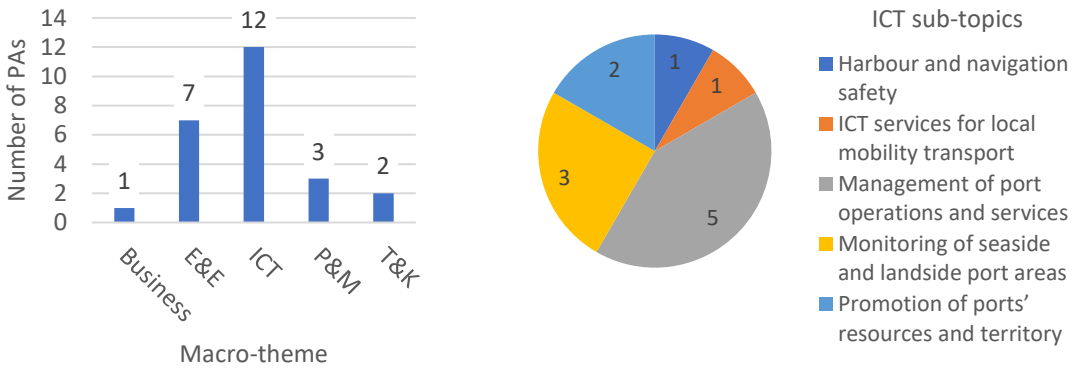

Figure 1 – PA macro-themes (left) and sub-topic (right).

2. Contributions from Project Partners

In the following sections, results are presented in a disaggregated form, as the reported contents are directly extracted from the document shared by each Project partner (PP).

2.1.ICT application and service development

Table 1 Pilot Actions of the macro theme: ICT application and service development

Macro-theme	Sub-topic	PP	PA
ICT	Harbour and navigation safety	PP3 - ASSET, PP13 - CMCC	3.3
	ICT services for local mobility transport	PP2 - ITL	2.3
	Management of port operations and services	LP - CORILA	LP.2
		PP3 - ASSET, PP13 - CMCC	3.2
		PP6 - AAST	6.1
		PP7 - LUUN	7.1
		PP8 - PGZ	8.1
	Monitoring of seaside and landside port areas	PP2 - ITL	2.2
		PP5 - ARAP	5.3
		PP10 - LUS	10.1
	Promotion of ports' resources and territory	PP1 - MMON	1.2
		PP5 - ARAP	5.2

2.1.1. Harbour and navigational safety

PA 3.3 – Development of a meteo-oceanographic forecasting system for sea shipping activities - PP3 ASSET, PP13 CMCC

The pilot action "3.3 - Harbour and navigational safety: development of a meteo-oceanographic forecasting system for sea shipping activities", under the macro theme "ICT applications and services development" has the objective to improve safety conditions of harbours and navigation,

by providing a meteo-oceanographic forecasting high resolution model and a ship routing application.

The expected result of the pilot action is the realization of best practices and information campaigns aimed to reduce emissions and waste from port operations.

Taking into account the three main ports included in the pilot, the modelling activities of the meteo-oceanographic forecasting for the Otranto port are in very good progress and in autumn a meeting with the local stakeholders is to be planned.

Modelling activities for the other two ports will shortly follow, together with the ship routing specific application development. Also in these cases, the dialogue with the stakeholders will allow to better shape and tuned the developed service.

Table 2 Indicators of the PA 3.3

Indicator	Unit of measure	Target	Achieved	Time horizon for monitoring
Meetings with stakeholders	Number of participants	10-15	0	February 2022
Development of meteo-oceanographic models	Number models	3	1	July 2022
Events	Number of events	2	0	July 2022

2.1.2. ICT services for local mobility transport

PA 2.3 – Development of ICT application for real-time information on local mobility option - PP2 ITL

Due to internal reasons of the transport operator, the original concept has been tested before the beginning of FRAMESPORT project. ITL, together with the municipality of Rimini, is planning the new pilot action. The development will be done during Autumn and the next year.

2.1.3. Management of port operations and safety

LP 2 – Set of ICT tools (DSS) about the quality of service within the Programme Area to support competitiveness and sustainability of small ports - LP CORILA

This Pilot Action (PA) aims to develop a Decision Support System (DSS), based on a common project-level ICT platform fed by a Programme Area level common supply-based database, which will be populated thanks to the proactive involvement of, and collaboration with, small ports of the whole

Adriatic region. Such DSS will incorporate a set of ICT tools optimally supporting users' choices, which constitute a significant multiplier of income to the benefits of ports, the tourism sector, the regional economy, and the overall territory; equally, the DSS will also support private investors (companies, operators) and policy-makers choices, thus, improving the competitiveness and sustainability of small ports in the programme area.

By capitalising the common project database, a set of common ICT tools and applications (DSS) will be developed and accessed from the project-level ICT platform. This will consist of an "Adriatic portal" and dashboard providing relevant map-matched information about the quality of service of small ports aiming to support users' choices; on the other hand, the DSS will also provide useful information, insights to steer decision from private business and policy makers in the Programme Area. Such results will be definitely original, in so far as no such initiatives are currently in place to overcome relevant gaps towards a coordinated and integrated system in the area.

It should be highlighted major distinctive features of the pilot, which has to be seen as an "area-wide common" strategic action (a sort of "Adriatic pilot action"). In fact:

- It comprises the whole Programme Area by involving the most relevant touristic ports and marinas. In other words, the pilot is developed to the benefit of all the ports in the area, not just for individual cases;
- it is neutral in its essence, since it exploits the common data base and ICT platform to the benefit of all stakeholders in the area.

As a result, the key output of the PA will be the (living) structured and harmonised project-level database including data on existing services at, or within the surroundings of, small ports of the Adriatic region; furthermore, the DSS itself will represent the major output of the Pilot Action, representing a decision-making tool and dashboard targeting different user groups, i.e., boaters, private investors and policy makers. As such, it represents a strategic tool to support and promote efforts towards a coordinated and integrated system in the Adriatic, thus, overcoming current gaps.

PA 3.2 – Regional ports networking and their connections: Promotion of the territory, ICT app for boat berth booking services, marine connectivity (sailboat) - PP3 ASSET

The pilot action "3.2 - Regional ports networking and their connections: Promotion of the territory, ICT app for boat berth booking services, marine connectivity (sailboat)", under the macro theme "ICT applications and services development" has as its objective to realize the cultural enhancement of Apulian territory and an online gate for booking systems. The goal is to create an ICT system for

boat berth booking collecting information from all the stakeholders involved and to improve maritime connectivity. The action foresees the development of an online gate for booking services.

The expected result of the pilot action is the realization of a unique gate to access all different booking services. We also plan to develop cultural enhancement of the territory.

The action is developed through a series of meetings with stakeholders in order to collect information about existing services and through cultural enhancement campaigns. We planned to create a unique gate to access booking services.

At the present, the pilot action is in the phase of collecting information about existing services, through the involvement of stakeholders. We are also going to contract external expertise.

Table 3 – Indicators of the PA 3.2.

Indicator	Unit of measure	Target value	Achieved value	Time horizon for monitoring
Meetings with stakeholders	Number of partecipants	10-15	10	July 2021
Creation of an online gate	Number of gates	1	0	July 2022
Events	Number of events	2	0	February 2022

PA 6.1 – Development of a prototype of a software application for the identification, booking and payment of available spots at Adriatic small ports. Testing phase at Port of Termoli - PP6 AAST

The pilot will entail developing a prototype of a software application that will help captains of boats travelling in the Adriatic Sea identify available spots in nearby small ports/marinas and book their preferred spots in advance. This way we plan to decrease waiting times at the ports, generate additional revenue for small ports/marinas, decrease overcrowding in certain ports and maximize the use of all available space along the Adriatic coasts of Italy and Croatia. The App will collect real-time occupancy data from each spot at small ports/marinas and make it available to anyone who has access to online or mobile platforms. The app will also include an online payment system to allow captains book and pay for docking spots through the app.The expected results will produce an improvement of the tourism flow in the ports, mainly to the simplification of booking procedures, also enhancing the growth opportunity of the inland territories.

The application developed during pilot will ultimately increase the efficiency of marine transport in the Adriatic Sea between Italy and Croatia and at the same time contribute to the economic development of small ports / marinas in the region. The pilot aims to establish a best practice that could be implemented to increase the communication and connectivity between small ports.

So far, some experts have been selected. They are in charge of developing the Pilot action preparatory initiatives, a regional report on best practices, a final common understanding on priority actions and KPI, Pilot Action Preparatory Initiatives, Pilot Review Sessions on Pilot Action Advancement Reports, Pilot actions resume and scale-up. The experts are currently collecting data and developing the first two reports, i.e., D4.2.1 and D5.2.1. Before to deliver completing the Pilot Action Preparatory Report (D5.2.1) PP6-AAST will complete the list of stakeholders that must be involved.

Currently, the PP has already involved the three associate Municipalities, where the ports of Molise are located (Termoli, Campomarino, Montenero di Bisaccia), and two private businesses of the Port of Termoli (Guidotti Ships and Marinucci Yachting Club). All of them have been involved either in regional meetings or in general project meetings. In the next month the PP6-AAST will launch the final tender to select the society in charge of the ICT equipment that will develop the Pilot Action.

Table 4 – Indicators of the PA 6.1.

Indicator	Unit of measure	Target	Achieved (Oct 21)	Time horizon for monitoring (July 21 > Feb. 22 > July 22)
Meeting with stakeholders	1 x meeting	At least 3	1	February ‘22
Procurement of partners	1 x partner	At least 5	5	July ‘22
Involved Stakeholders	1 x stakeholder	At least 20		October 21
Involved Marinas	1 x Marina	3	1 (Termoli)	January ‘22
Tourism services	1 x Service	10	0	February ‘22
Number of downloads	1 x Download	150	n/a	July ‘22
Number of users	1 x User	100	n/a	July ‘22
Booked berths	1 x Berth	10 x month	n/a	December ‘22

Users' satisfaction	Rankings	At least 60%	n/a	December '22

PA 7.1 – Improvement of the available technologies for port management - PP7 LUUN

The basic idea is to create a Port Management Program Platform that will provide supervision of vessels in ports managed by the Port Authority of Umag-Novigrad, i.e., management of IT and other services offered by the port authority. It would consist of several connected modules – applications, with the possibility of upgrading to new modules - functionalities together with their data exchange with other systems. In particular, the idea is to make it possible to monitor the ports and the berths through video surveillance cameras, for the facilitation of checking the berths availability, of the landing procedure and of the payment for the service.

Expected results include improved and updated versions of video surveillance that will enable port authorities and related actors a higher quality grasp of happenings inside the port area through traffic tracking, record storing and security enhancement. Updated versions of radio frequency devices will enable port authority a quicker and more efficient communication channels apart from the wanted platform that will include different types of IT modules whose job is successful business process automation. Port vessels (dinghies) that help facilitate the movement of employees will be electrified in future which in turn helps paving the way towards sustainability and cleaner environment.

After the initial phase and procurement for external experts for the purpose of conducting a thorough market research (research, data collection and preparation; analysis, knowledge of issues and identification of critical points; development of project solution) pilot advancement can continue. Procurement process for acquisition of equipment is what follows. After the procurement, pilot action specific activities will be carried out (context and territorial analysis; preparation of the public procurement documentation and market analysis; validation from local stakeholders; contracting and realization **of** service/supply of equipment; dissemination activities…).

Prior to anything, analysis and preparation of the financial plans for the year had to be done. Procurement for the external expertise was done in order the prepare the fundamental needs of the project pilot for the partner Port Authority of Umag-Novigrad. The experts helped to formulate the existing state and future needs through market research and development of the project solution. After that, constant research is being done, as well as preparation for the public procurement process in regard to acquisition of appropriate thematic equipment needed for project pilot to advance forward.

Table 5 – Indicators of the PA 7.1.

Indicator	Unit of measure	Target	Achieved	Time horizon for monitoring
Public procurement for external experts	procurement	1x	1x	April 21' – June 21'
Drafting of project solution document	document	1x	1x	June 21'
Public procurement for thematic equipment	procurement	2x	0x	September 21'
Implementation activities	Milestones from Timeplan	8x	1x	April 21' – End of the project

PA 8.1 – Improvement of the small ports monitoring system (mooring management, billing system, analysis of customer habits) - PP8 PGZ

This pilot project aims to standardize, develop and implement "smart" solutions in the Adriatic ports. The selected Port will make these solutions more accessible to end users as well as more efficient in their functions, safer and more attractive for the development of economic activities.

In the future this Small port smart monitoring system project will be put into practice and will be allowed to be used in other ports after the end of the project and will contribute to encouraging the implementation of new smart innovation in ports in Croatia and Italy, making port intelligent and multi-modal hubs.

Advanced ICT solutions for ports with communal berths make it easy to set up a transparent system for providing services to basic port activities such as mooring management, calculation for the use of moorings. Establishing a single calculation system, whether it is just berth or additional services, will allow business processes, analytics, and reporting. Advanced ICT systems should enable constant adaptation and improving services through monitoring and analyzing customer habits. The smart ports with communal berths should primarily modernize the provision of services in the area of primary activities.

The activities carried out so far are:

1. market research;
2. research possible pilot project ideas;
3. analysis of available pilot project solutions;
4. stakeholder needs analysis;

5. analysis of system solutions in other ports.

2.1.4. Monitoring of seaside and landside port areas

PA 2.2 – Development of monitoring system for port operations and public events in the canal port's area - PP2 ITL

The pilot activities consist in the design, implementation and monitoring of an experimental action for the monitoring of the sea-side and land-side areas of Rimini's Canal Port. The objective of the action is to test the use of surveillance technologies (e.g. cameras, sensors, drones, etc.) to monitor the safe performance of port operations on the water and on the land side.

The pilot action, in line with the FRAMESPORT objectives, aims to improve the quality, safety and environmental sustainability of maritime service transport. As far as security is concerned, the expected results are:

- the installation of new devices to monitor the most frequented port areas;
- increased monitoring quality;
- increase the number of monitored operations;
- increase the perception of security of stakeholders and port visitors;
- simplify the supervision of major events taking place in the port area.

The most suitable technology will be defined through the involvement of the two categories of stakeholders:

- Institutional stakeholders and primary users of the port who will be part of the process of co-creation and identification of the needs of the pilot action;
- Subjects using the port services that will have a role as observers in the pilot action.

During the reporting period, five meetings and one inspection to the port of Rimini took place. The purpose of the meetings was to share the objectives of the pilot action and to acquire information from the stakeholders for the design of the pilot action.

Table 6 – Indicators of the PA 2.2.

Indicator	Unit of measure	Target	Achieved	Time horizon for monitoring

Specific indicators deriving from the choice of the IT solution	#	n.a.	n.a.	n.a.
Number of equipment installed	#	1	0	June '22
Number of subjects trained with regards to IT control and spatial planning	#	5	0	Nov '21 – June '22
Number of operations monitored	#	200	0	Nov '21 – June '22

PA 5.3 – Creation of Innovation Lab to promote development and planning of small ports along the Adriatic coasts: ICT Platform for monitoring and supervision of freights/passenger - PP5 ARAP

This sub-activity represents a compliant instrument for the regulation in the short and medium term of road traffic for loading goods and containers; for the localization, monitoring and management of work orders of port vehicles; for planning, management and monitoring of loading/unloading activities; for statistical analysis of mobility data and occupation of loading/unloading areas. Arap organized several meetings to define smart mobility platform functionality, but the tender for the assignment is under preparation.

Table 7 – Indicators of the PA 5.3.

Indicator	Unit of measure	Target	Time horizon for monitoring
Indicator 1	Etherogeneity of the involved stakholders	At least 3	October 2022
Indicator 2	User satisfaction	At least >50%	October 2022
Indicator 3	Social context and critical mass Indicators: n. of people reached	At least 5.000	October 2022
Indicator 4	Innovation Lab approach uptake: n. of ports involved in which replication/transfer takes place during the project	At LEAST 2	October 2022

PA 10.1 – Feasibility Studies on alternative moorings for ship and on the use of electric ro-ro passenger ships - PP10 LUS

This is a study on alternative methods of mooring for ships (RO-RO and cruisers) and electricity supply for RO-RO ships: the study will define the possibilities of applying alternative methods of mooring for ships in order to increase the level of operability and safety in the port of Šibenik. Furthermore, the study will analyze and describe the possibilities of introducing RO-RO services to the islands of the Šibenik archipelago using electrically powered boats. It is necessary to analyze the possibilities and necessary steps for the implementation of the use of alternative fuels that have a lower impact on the environment in order to ensure sustainability. The technologies and lessons

learned from the study, as well as the pronounced advantages of applying new technologies, are applicable in all ports in Croatia and Italy and there should be a possibility that they will become the standard in the Adriatic. The study is the first step and basis for future investments and application of these technologies.

Expected results are thoroughly researched topics on alternative mooring options and possibilities of usage of electric roro passenger ships backed by studies providing an insight on possibilities that could propel the development of Šibenik port to the new levels of competitiveness.

Procurement process for the external expertise regarding the administrative and technical guidance for the duration of project was completed thus ensuring smooth and unhampered administrative communication with other bodies. Procurement process for the external expertise regarding the feasibility studies is yet to be done which will then be followed with the drafting and signing of the contract. Pilot action will be slowly realized through drafting and finally approving the Feasibility studies on alternative moorings for ships as well as use of electric roro passenger ships.

Procurement process for the external expertise regarding the administrative and technical guidance for the duration of project. No problem was encountered so far.

Table 8 – Indicators of the PA 10.1.

Indicator	Unit of measure	Target	Achieved	Time horizon for monitoring
Procurement processes for external expertise	1x procurement process	2	1	June ‘21
Draft of the Feasibility studies	1x study	1	0	September ‘21

2.1.5. Promotion of ports’ resources and territory

PA 1.2 – Promotion of the territory linked to Nautical clubs through development of extended reality application - PP1 MMON

The objective of the project is to strengthen the operational capacity of sailing and nautical centers through the development of tourist attractiveness and promotion in the territory of the Gulf of Panzano through an AR Augmented Reality system. The pilot action is developed within the macro theme "ICT applications and services development" in accordance with the general purpose of the project Framesport in the sustainability and promotion of services related to sailing and nautical centers of the Adriatic coast. The challenge that the pilot action involves is the inclusion of sailing

and nautical centers in the circuit of tourist activities in the area, in order to create a web portal for the promotion of cultural and natural elements to integrate the services and opportunities of the Monfalcone area.

The specific objectives of the pilot action are:

- Implement the attractiveness of the Sailing and Nautical Centers by making available to users the possibility to take advantage of the tourism/environmental opportunities offered by the territory;
- Facilitate the users of sailing and nautical centers in the knowledge and therefore use of goods and historical-environmental services - tourism in the area through the activation of an AR Auhmented Reality system.

The expected result of the pilot action is the enhancement of the offer of sailing and nautical centers and integration with the services and opportunities of the territory through an AR Augmented Reality system.

The system will be articulated on the realization of a series of "paths/experiences" in AR that will include all the sailing and nautical centers and the entire city district:

a) The first path will concern the connection along the coast from the mouth of the Timavo / Villaggio del Pescatore to the Cona Island (path easily implemented from Trieste to Venice along the Litoranea Veneta);

b) a series of routes integrate the two systems of sailing and nautical centers (a) east-west channel and b) Marina Julia-Isola dei Bagni) articulated on thematic experiences, in turn integrable between them, (environment/thermalism/history and museums/family/slow and taste).

1. The arrangement of a series of touch points within the selected sailing centers that can act as a trigger to the discovery of the territory in an augmented reality situation;

2. Creation and activation of a web space or "web portal for the presentation of content", which will give access to a real video guide of the territory that will allow through mobile devices to access the paths / experiences included in a special website.

At this time, the pilot action is in the preparation phase of contracting out to experienced staff.

Table 9 – Indicators of the PA 1.2.

Indicator	Unit of measure	Target	Achieved	Time horizon for monitoring
Number of touristic sites involved	Number of sites	10-12	X	July '21
Number of events organized	Events	2	X	July'21
Creation of key Points	Number of KP realized for touristic sites	10-12	X	July'21
Number of app/web users	Number of users	150	X	July'21

PA 5.2 – Creation of Innovation Lab to promote development and planning of small ports along the Adriatic coasts: Port attractiveness - PP5 ARAP

The Sub activity objective is to enhance the valorisation of natural and cultural unexploited capital of ports areas by means of tourism development and improved accessibility, aiming at setting up a new cross-border strategy that unleashes the potential of areas assets through their inclusion in wider networks and markets. ARAP disposed selection of the external expert that will carry out the pilot action to be implemented; some event had been planned for this summer (a guided tour on the boat, a gastronomic/cultural event at .S. Salvo Port).

2.1.6. Comments

Consistently with the name of the sub-topic at issue (ICT application and service development), these PAs share the need of a digital transition and the aim of making ports more accessible. Indeed, monitoring harbours and showcasing the services supplied by the port operators turns out to be the most crucial theme and the common thread of the PAs pertaining to the ICT theme. On the other hand, PAs have their own peculiarities: in each case local stakeholders are met and partner dispositions are exploited. The reported PAs mainly deal with port operations, but different kinds of users can benefit from the designed interventions as well.

The introduction of easily accessible apps and the development of digital platforms can be noticed especially in the PAs addressed to "Management of port operations and services" and "Promotion of ports' resources and territory" sub-topics. On the other hand, "Harbour and navigation safety" and "Monitoring of seaside and landside port areas" PAs both aim to improve safety, but from different perspectives: in the former case, a contribution could be observed in those activities

carried on in the open sea, while in the latter case, a focus is made on port activities and on crucial points in landside areas.

2.2.Environment and energy aspects

Table 10 – Pilot Actions of the macro theme: Environment and energy aspects

Macro-theme	PP	PA
E&E	LP - CORILA	LP.1
	PP3 - ASSET, PP13 - CMCC	3.1
	PP4 - SVIM	4.1
	PP4 - SVIM	4.2
	PP4 - SVIM	4.3
	PP5 - ARAP	5.1
	PP10 - LUS	10.2

LP 1 – Development of an Ecolabel criteria proposal for small ports to be submitted to the EU Ecolabelling Board (EUEB) - LP CORILA

The objective of this pilot project is developing an Ecolabel criteria and requirements proposal for small ports to be submitted to the EU Ecolabelling Board (EUEB). The requirements and guidelines for small ports are going to be developed via a Life Cycle Assessment (LCA) study. Two Italian small ports will be analysed to perform the study and delineate the guidelines and criteria. The aim of the pilot project is developing an Ecolabel criteria and requirements proposal for small ports to be submitted to the EU Ecolabelling Board (EUEB). Thus, the expected outcome is a report that illustrates the criteria, guidelines and best practices for sustainable small port management that allows these organizations to get the Ecolabel certification.

The requirements will be divided in “minimum” and “excellence”. The former is the set of criteria that will be developed to obtain the Ecolabel certification, thus it represents the basic processes, activities and features that a small port shall have to get the Ecolabel certification. The latter set of criteria will be defined to mark the small port as excellent from a sustainability perspective, therefore they are additional criteria that small ports can meet to achieve outstanding environmental performances.

The following activities are carried out to implement the pilot project:

1. **Literature review**: analysis of academic publications, national and international regulations on port and touristic activities sustainable management.
2. **Goal and scope**: Definition of the objective, focus and system boundaries of the project.
3. **Stakeholder involvements**: Involvement of two Italian small ports that are representative of the Adriatic basin environment.
4. **Inventory analysis**: Gathering of the data needed for the LCA study. Visit the small ports to understand how they operate and to collect the required information to scientifically analyse their life cycle.
5. **Impact assessment**: Calculation of the environmental impacts of the life cycle according to the selected impact categories (e.g. global warming potential, ecotoxicity, resource depletion, water usage…).
6. **LCA report**: Report that presents the result of the LCA study, the way it was conducted, the environmental impacts and their sources, and opportunities of improvement.
7. **Coordination with Project Partners (PP)**: collection of the outcomes and experiences from the various pilot projects of the FRAMESPORT initiative to gather valuable know-how, tools and methodologies that can be adopted to further improve the Ecolabel requirements. Assomarina will also be involved in this project in order to gather their suggestions on how to improve the Ecolabel proposal.
8. **Draft on Ecolabel requirements**: Creation of the draft on the Ecolabel requirement and guidelines.
9. **Submission to JRC**: Submission of the aforementioned draft to the JRC (Joint Research Center) to get their feedback and create the final version of the Ecolabel requirements, which then will be submitted to the EU Ecolabelling Board (EUEB).

So far, the activities number 1, 2 and 3 have been performed. A meeting with one small port is scheduled for the 19th of July, while the one with the other will be organized soon.

PA 3.1 – Implementation of Port sustainability best-practices - PP3 ASSET

The aim of the pilot action “3.1 - Implementation of port sustainability best-practices” is to improve ports conditions by touristic point of view. It pertains to the macro theme “Environment and energy aspects”. The purpose is to realize best practices (plastic free) and information campaign in three Apulian ports (Vieste, Trani, Otranto) reducing emissions and waste from port operations and to collect all the existing services to be offered to the tourists. The pilot project will contemplate the supply of a plastic free kit.

The first phase is the analysis of status quo in urban, cultural, technological services aspects.The proposal will be built and validated by the local stakeholders. At the end it will be planned a final dissemination phase.

The specific objectives of the pilot action are:

- To improve port conditions in a sustainable way
- To realize best practices (plastic free) and information campaign in three Apulian ports
- To reduce emissions and waste from port operations
- To collect information about the existing services offered to the tourists

The action is developed through a series of meetings with stakeholders in order to collect information about existing services and through an information campaign. It was planned to create a plastic free kit to be given during the campaign.

At this time, the pilot action is in the phase of definition of existing services and future needs. We are also going to contract external expertise.

Table 11 – Indicators of the PA 3.1.

Indicator	Unit of measure	Target	Achieved	Time horizon for monitoring
Meetings with stakeholders	Number of partecipants	10-15	10	July 2021
Creation of a kit to be distributed	Number of kits	50	0	July 2022
Events	Number of events	2	0	February 2022

PA 4.1 and 4.2 – Sustainable and local mobility interventions (ex. electric bus and bike services) - PP4 SVIM

The pilot actions will mainly be dealing with the macro-theme “Environment and energy aspects”. Both the actions 4.1 and 4.2 implement electric vehicles, in order to evaluate advantages in terms of energy saving but also pollution reduction and contribution to reduce greenhouse emission.

The Pilot actions 4.1 for Vallugola port (Gabicce Mare) and 4.2 for Numana port have the same objective “Sustainable and local mobility interventions” and have been designed in parallel considering the following common aspects:

- the touristic vocation of the ports;
- the territorial context: both ports are located in natural protected areas;
- needs to develop transport connection with inland and/or other destination.

For what concerns PA4.1, the service started the 22 July 2021, and will run until the 4 of September 2021 all days. The E- bus is a mini bus with 15 seats, powered by an electric motor engine. The E-bus perform 8 rides roundtrip every day, 4 in the morning and 4 in the afternoon, starting from Vallugola port to the center of Gabicce Mare, with an additional stop at Gabicce Monte, one of the major tourist destinations in the municipality territory. Each roundtrip is 11 km. The Ebus has a station with an electric charging hub in the Vallugola port Area. The Service, free of charge, is available with priority for boat owners of Vallugola port. Number of places available has been limited to 8, according to the containment measures due to Covid-19.

For what concerns PA4.2, the service started the 3 of August, and will run until the 3 of october 2021 all days, with 2 rounds: morning and afternoon. The service is composed by 8 E-bike, with specific characteristics able to perform long rides to the inland's destination, included the uphill roads of Conero Park. This mean that the E-bike are equiped with electic motor with a battery of 625Wh, 10 – speed, autonomy of 120 km, hydraulic disc brakes. The E-bike station is inside the port area, equiped with specific electric charging hub and locking system. The Service, free of charge, is available with priority for boat owners of Numana port. The 3 associations managing the rent of berths at Numana port has been involved in the activity.

The procurement processes for both external service selection (E-bike and E-bus) suffered some delays. It was caused partially by difficulties in organizing meetings among SVIM and associated partners to agree on the intervention to carry out and in the drafting of the technical layout (the modalities, the equipment required etc…), due to COVID restrictions during early months 2021, which negatively affected the promptly availability of each person involved. In the execution of the selection procedure, delays in obtaining certifications requested by law expanded the timing of service assignments to the Operators.

Table 12 – Indicators of the PAs 4.1 and 4.2.

	Indicator	Unit of measure	Target	Achieved	Time horizon for monitoring
4.1	Indicator 1	E-bus users	2000	NOTE: In the first week from 22 of July we reached a daily mean of around 40 passengers transported	Feb. '22 for the first season of activity.

	Indicator 2	Number of Questionnaire	100	Note: During the first week of activity we collected 7 questionnaires	Feb. '22 for the first season of activity.
4.2	Indicator 1	E-bike users	400		Feb. '22 for the first season of activity.
	Indicator 2	Number of Questionnaire	40		Feb. '22 for the first season of activity.

PA 4.3 – Demonstrative action: intervention for cleaning water bodies from floating solid waste - PP4 SVIM

The action 4.3 is addressed to find out environmental solution to manage sea pollution, in particular from solid plastic waste. The pilot actions 4.3 has to be built-up yet. No information on thematic equipment shall be deliverable.

PA 5.1 – Creation of Innovation Lab to promote development and planning of small ports along the Adriatic coasts: environmental impact - PP5 ARAP

This action represents a compliant example of study to implement the best solution of sustainability in the ports' spaces. ARAP individuated an internal expert who started the first recognition of data in the ports of Vasto and S. Salvo. He has also carried out preliminary on-site inspections for surveys that are going to enrich the on-desk data. The expert will be supported by an external technician (to be identified), who based on the data collected will identify the best possible solutions.

PA 10.2 – Testing IT system for the forecast of possible geographical dispersion of the pollutants in case of accident - PP10 LUS

This part of the project pilot plan is focused on the forecasts of possible geographical spread of pollution: buoys with sensors will be installed and an IT tool for predicting possible geographical spread of pollution will be tested. The Adriatic is a very sensitive area and its protection is a priority for all regions. In case of pollution, the installed system will enable Šibenik Port Authority to predict the geographical spread of pollution and to react properly, which results in benefits for the entire Adriatic coast area.

Expected results encompass the procurement of the appropriate IT equipment as well as conducting simulation tests in order to demonstrate the functionality and to gather and form an overview of the pilot action as a whole. Simulation creates space for the improvement, upgrades and fixing of the tweaks if there appears to be need of it, after which the final remarks are being made.

Port of Šibenik Authority's pilot action has to start with drafting of the technical specification for the equipment which defines the requirements for the product (information on technical design, development and procedure related to the requirements it outlines). After drafting the document regarding the technical specifications, procurement process for the equipment tender procedure is launched. After equipment acquisition, a simulation test is in order to test the functionality and to form an overview of the product. Pilot action will be concluded after the simulation test when final remarks should be in order.

Thorough market research is being conducted in order to gain an overview of the market and the solutions which are being offered. No problems were encountered so far.

Table 13 – Indicators of the PA 10.2.

Indicator	Unit of measure	Target	Achieved	Time horizon for monitoring
Procurement procedure	1x procurement procedure	1	0	July '2021
Simulation test	1x test	1	0	October '2021

2.2.1. Comments

The macro-theme name "Environment and energy aspects'' leaves no room for doubt about the common cause that joins the reported PAs: sustainability. Both PA 3.1 and PA 4.3 face the issue of marine plastics. PA 5.1 still deals with the water pollution, while the two other PAs (4.1 and 4.2) are carried out in landside areas, aiming to a more sustainable mobility.

2.3.Spatial and planning management

Table 14 – P ilot Actions of the macro theme: Spatial planning and management

Macro-theme	PP	PA
P&M	PP2 - ITL	2.1
	PP9 - ZLUZ	9.1
	PP14-LUSE	14.1

PA 2.1 – Development of Master Plan for the development of a regional-level port system in Emilia-Romagna region - Project proposal for the renewal of Rimini canal Port - PP2 ITL

As stated in Deliverable D.5.1.1, the pilot actions aim to define technical solutions and experimental initiatives to create new paths to drive small ports towards a sustainable growth.

The Canal Port of Rimini is the small regional port of the city, and it is an important part of the story of the city. Now it is flanked by the large and modern marina, the “Darsena” (Dock) port, that can host boats up to 45 meters while the Canal ports is used for boats of max 18 meters, for 158 berths (up to more than 800 counting the ones in the “Darsena”).

Pilot Action 1 concerns the “Porto Canale di Rimini”, the small canal port of the city of Rimini in Italy. Within the FRAMESPORT project this pilot action is focused on the analysis and subsequent planning, design and monitoring of the activities foreseen for the requalification of the area.

The aim of the Pilot Action 1 is to analyze the urban planning, technical, environmental, socio-economic and cultural framework of the canal port of Rimini and the subsequent drafting of a project proposal for the redevelopment and the enhancement of services and infrastructure.

During the implementation of the pilot action, stakeholders of interest are involved for the definition of objectives, progress, and results of the activities, in order to achieve a concerted and participated project.

As stated before, the activities of Pilot action 1 can be divided in two steps: an analysis phase and a project phase. The first phase led to the preparation of a general report that collects the results of all analysis activities, while the second one will see as result a project proposal for the redevelopment of the Canal Port area, accompanied by a technical report and a masterplan design project.

During this first period the analysis of the current state was carried out, thanks to research activities, surveys and meetings with the stakeholders. During the analysis activity, problems have occurred and risk mitigation measures have been put in place. In particular:

- Difficulties in meeting stakeholders due to the Covid-19 pandemic situation: the mitigation measure of the risk consisted of the development of online meetings;
- Geometrical consisted of the use of Google Maps and other graphics documents and plans provided by the Municipality of Rimini.

Table 15 – Indicators of the PA 2.1.

Indicator	Unit of measure	Target	Time horizon for monitoring
Key Activities analyzed/ key activities identified	%	100	June '21
Number of internal reports	#	2	Dec '21
Number of meta-projects design documents	#	2	Dec '21
Number of technical reports	#	1	June '21
Number of definitive design documents	#	2	June '21
Number of stakeholders involved/number of stakeholders identified	%	70	June '21
Dissemination activities	#	2	June '21

PA 9.1 – Development of Master Plan for the development of a county-level port system in Zadar County - PP9 ZLUZ

The objective of the project is to achieve development of the port system in order to improve the infrastructure, commercialization of the port space, customer services, the available information for users and encourage cross-border cooperation/service. The County Port Authority of Zadar has the largest number of ports (111) under its jurisdiction. While these ports are of great local and county significance, most are underdeveloped, and their commercial potential has not yet been adequately exploited. Development of these ports is of utmost importance for the touristic and economic system, depending on the cross - border exchange.

Regarding the durability and transferability, the Master Plan will classify ports at county and local level and this is absolutely applicable on the Croatian and Italian side. Furthermore, the development plan will cover the infrastructural, organizational, legal and economic aspects which can be further adapted to any region on the Adriatic or in Europe.

The methodology is articulated as follows:

- Planning of pilot action specific activities,
- preparatory studies for pilot action,
- procurement process for external expertise selection,
- pilot actions implementation

At this time, the pilot action is in the preparation phase of contracting out to experienced staff.

Table 16 – Indicators of the PA 9.1.

Indicator	Unit of measure	Target	Time horizon for monitoring
Desk research	1x research	1	Present – June 2021.
Procurement process for external expertise selection	1x research	1	August-September 2021
Drafting and signing of the contract	1x document	1	October 2021
Draft of the Master Plan	1x document draft	1	November 2021. – April 2022.
Consultation with stakeholders	1x consultation	1	November 2021. – April 2022.
Final approval	1x final document	1	May 2022. – April 2022.

PA 14.1 – Development of Master Plan for the development of a county-level port system in Ličko-Senjska County - PP14 LUSE

Aim of this pilot action encompasses a lot smaller scale surveys and researches whose final purpose leads to creation of the Master Plan for the development of a county-level port system in Ličko – Senjska County. Researches plan to develop an overview of the existing state in all of the smaller ports under the Ličko – Senjska County governance and according to the results, the Master Plan will be created encompassing all of the short-comings and all of the improvement potentials for all of the ports in County. Port of Senj as the biggest port containing the largest number of entities and stakeholders will benefit from the thorough research regarding all of the possibilities that could benefit the region. Stakeholders will be involved in several levels of the process to assure the most transparent scenario will be represented in the Master Plan.

Expected result from this pilot action encompasses creation of an exhaustive document i.e., Master Plan for development actions on a county-level port system. Results are expected accordingly with no delays in sight.

Methodology for execution of this pilot action is as follows: 2 tendering procedures are planned to be completed, with the information that at the time of writing, one tendering procedure for external expertise has been completed (technical and administrative guiding). Remaining tendering procedure refers to the creation of Master Plan which will then be followed by the drafting and signing of the contract. After the procurement process and signing of the contract, draft is order to be made gathering all the researched data for the creation of the Master Plan which will encompass

all the ports under the Ličko – Senjska County's governance. This phase is followed by the stakeholder involvement and in the end, final remarks on the Master Plan.

Activities that have so far been carried out encompass drafting and signing of the contract for professional guidance with technical and administrative jobs after the tendering procedure has been completed.

Table 17 – Indicators of the PA 14.1.

Indicator	Unit of measure	Target	Achieved	Time horizon for monitoring
Tendering procedure	1 tendering procedure	2	1	June '21 – January '22
Master Plan draft	1 document draft	1	0	December '21

2.3.1. Comments

All the three PAs contain in their titles the word "Master-plan" since wide areas (counties or regions) are analyzed from many different points of view. In each case a focus on one of the main port in the area (still regional ones) is made. The contributions from stakeholders become crucial in order to detect critical issues and to collect information about the activities carried on in the ports and their surrounding areas.

2.4.Training and knowledge aspects

Table 18 – Pilot Actions of the macro theme: Training and knowledge aspects

Macro-theme	PP	PA
T&K	PP1 - MMON	1.1
	PP5 - ARAP	5.4

PA 1.1 – Develop / refine professional skills for refitters and shipwrights for the classic and historical boat sector - PP1 MMON

The objective of the project is the strengthening of the operational capacities of sailing and nautical centers through the improvement of professional skills dedicated to ancient crafts and applied to new technologies, in support of companies for the promotion of the training of new shipwrights and the enhancement of the heritage of classic vintage sails.

The pilot action is developed within the macro theme "training and knowledge aspects" in accordance with the general purpose of the Framesport project in the field of sustainability and promotion of services related to sailing and nautical centers of the Adriatic coast. The challenge that the pilot action involves is the recovery of knowledge related to the profession of shipwrights that in recent years has had less and less development and that we want to bring back to a new interest in training and guidance to the new generations.

The expected result of the pilot action is the technological enhancement of sailing centers through the creation of a school of training / updating related to the knowledge and professional skills of the shipwrights and refitters.

The action is developed through a series of integrated interventions that will use a technology platform, both as a database and as a tool for e-learning activities, also in view of the Covid restrictions. In particular it is foreseen:

- establishment of a platform for entrepreneurial relations for the exchange of know-how and experiences aimed at the innovative growth of enterprises and for the development of entrepreneurial skills and those skills and knowledge necessary to promote/update professional skills for refitter figures and shipwrights for the classic boat sector;
- the development of training modules and the realization of a specific training activity delivered remotely through the use of technological platforms and virtual rooms and a summer school, with activation of training modules using the logistical structures present in the system of the Gulf of Panzano;
- to realize events of orientation toward the professionalism tied to the sea aimed at the younger generations

The specific objectives of the pilot action are:

- Implement technological knowledge for the strengthening of sailing and nautical centers
- Develop professional skills in the field of refitters and shipwrights
- Promote awareness and attractiveness of the professions related to the sector.
- Create a database of knowledge and skills in the field of classic and vintage sails.

At this time, the pilot action is in the definition phase of contracting out to external expertise.

Table 19 – Indicators of the PA 1.1.

Indicator	Unit of measure	Target	Achieved	Time horizon for monitoring
Training activities	Number of partecipants	10-15	X	July '21
Number of training modules organized	Number of training modules	5-8	X	July '21
Number of events	Number of event days	3-5	X	July '21

PA 5.4 – Creation of Innovation Lab to promote development and planning of small ports along the Adriatic coasts: training and learning events

This pilot action aims to promote an informative/formative path to enhance awareness and competences among young generations on the issues. Macrotheme Training and knowledge aspects The selected expert already contacted and visited 3 secondary schools (1 in S. salvo, 1 in Vasto, 1 in Scerne) to define a programme to develop from September 2021.

2.4.1. Comments

As the macro-theme name suggests, the direct contact with people and the desire of sharing the expertise knowledge characterize these PAs. Learning courses or events represent the core of the expected actions, and different levels of education make them suitable both for skilled people and for beginners.

2.5.Business oriented aspects

Table 20 – Pilot Action of the macro theme: Business oriented aspects

Macro-theme	PP	PA
Business	PP12 - LOGO	12.1

PA 12.1 – Development of small port prototype. Identification of opportunities to be taken in order to develop a single port and convey outcomes to stakeholders for the future development and investment plans - PP12 LOGO

Aim of Logoteam's pilot action consists of research and systematization of opportunities that have the potential to be implemented and successfully deployed in small ports and harbours on both sides of the Adriatic coast. Research consists of discovering best practises all around the world while

also keeping track of the current situation and opportunities that have potential in the existing state of the ports. Research encompasses a whole spectrum of fields of potential improvement ranging from opportunities in use of renewable energy, efficient business practises, facilitation of existing processes, ecologically acceptable waste disposal practises, emergency reaction kits and a whole lot of other spheres…

All of the potential improvement factors will be an agenda for the discussion with relevant stakeholders so the outcome can reflect everyone's vision for the future development of the ports and harbours.

Expected results consist of development of a small port prototype which would include identification of opportunities to be taken in order to develop a single port and convey these outcomes to stakeholders for the future development and investment plans. No problems with implementation are expected.

Exhaustive research and analysis are being conducted on all of the possibilities within the sphere of port improvement. After the creation of a small port prototype, stakeholders will have a saying, suggesting their ideas and visions striving for the creation of the ultimate port prototype. The next phase, after the stakeholder meetings, consists of final defining of the small ports and harbours prototype. Last part of the methodology refers to the act of dissemination of the project pilot.

Research and systematization of gathered data are being thoroughly prepared and organized with a goal of creating a collection of usable and transferable examples which can later serve as a base for development of a prototype.

Table 21 – Indicators of the PA 12.1.

Indicator	Unit of measure	Target	Achieved	Time horizon for monitoring
Desk research	1x research	1	1	Present – May 2022
Draft of the document	1x document draft	1	1	September 2021 – December 2021
Final version of the document	1x final document	1	0	May 2022
Presentation to stakeholders	1x presentation	2	0	January 2022 – End of project

2.5.1. Comments

Even if this PA is associated with a different macro-theme, it has several common points with the previous ones, especially some of those included in the “Management of port operations and services” group, but also with the “Environment and energy aspects”. Indeed, port operations and processes are analysed, focusing on business-related aspects, but without neglecting environmental aspects, such as renewable energy.

3. Conclusions

Each Pilot Action (PA) seems to be at least addressed to its goal, both through the definition of several KPIs which help in defining the steps of the activities and starting the procedures for the procurement of external expertise and services. On the other hand, concrete actions can be sometimes slowed by the need of involving all the stakeholders in the study area, even if in several cases practical solutions have already been officially launched.

In the following table are collected the comments previously reported for each macro-theme.

Table 22 – Comments collected from each macro-theme paragraph.

ICT application and service development (ICT)
Consistently with the name of the sub-topic at issue (ICT application and service development), these PAs share the need of a digital transition and the aim of making ports more accessible. Indeed, monitoring harbours and showcasing the services supplied by the port operators turns out to be the most crucial theme and the common thread of the PAs pertaining to the ICT theme. On the other hand, PAs have their own peculiarities: in each case local stakeholders are met and partner dispositions are exploited. The reported PAs mainly deal with port operations, but different kinds of users can benefit from the designed interventions as well. The introduction of easily accessible apps and the development of digital platforms can be noticed especially in the PAs addressed to “Management of port operations and services” and “Promotion of ports’ resources and territory” sub-topics. On the other hand, “Harbour and navigation safety” and “Monitoring of seaside and landside port areas” PAs both aim to improve safety, but from different perspectives: in the former case, a contribution could be observed in those activities carried on in the open sea, while in the latter case, a focus is made on port activities and on crucial points in landside areas.
Environment and energy aspects (E&E)
The macro-theme name “Environment and energy aspects'' leaves no room for doubt about the common cause that joins the reported PAs: sustainability. Both PA 3.1 and PA 4.3 face the issue of marine plastics. PA 5.1 still deals with the water pollution, while the two other PAs (4.1 and 4.2) are carried out in landside areas, aiming to a more sustainable mobility.
Spatial planning and management (P&M)
All the three PAs contain in their titles the word “Master-plan” since wide areas (counties or regions) are analyzed from many different points of view. In each case a focus on one of the main port in the area (still regional ones) is made. The contributions from stakeholders become crucial in order to detect critical issues and to collect information about the activities carried on in the ports and their surrounding areas.
Training and knowledge aspects (T&K)

As the macro-theme name suggests, the direct contact with people and the desire of sharing the expertise knowledge characterize these PAs. Learning courses or events represent the core of the expected actions, and different levels of education make them suitable both for skilled people and for beginners.
Business oriented aspects
Even if this PA is associated to a different macro-theme, it has several common points with the previous ones, especially some of those included in the "Management of port operations and services" group, but also with the "Environment and energy aspects". Indeed, port operations and processes are analysed, focusing on business-related aspects, but without neglecting environmental aspects, such as renewable energy.

In general, each PA has its specific focus, but some common threads between different PAs can be identified, especially considering each macro-theme one by one. In fact, tasks and methodologies do not differ too much from a PA to another when the main goal is the same.

Consistently with the project goal, following keywords can synthesize what has been said so far: development, environment, accessibility, digital transition, and inclusiveness.