



## FEASIBILITY STUDY

### FOR ANCONA PORT PILOT ACTION





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## I. DOCUMENT CONTROL SHEET

<b>Project acronym</b>	ADRIGREEN
<b>Project Title</b>	Green and Intermodal solutions for Adriatic airports and ports
<b>Axis</b>	Maritime transport
<b>Specific Objective</b>	4.1- Improve the quality, safety and environmental sustainability of marine and coastal transport services and nodes by promoting multimodality in the Programme area.
<b>Project website</b>	<a href="https://www.italy-croatia.eu/web/adrigreen">https://www.italy-croatia.eu/web/adrigreen</a>
<b>Start of the project</b>	01/01/2019
<b>Duration</b>	36 months
<b>Related activity:</b>	4.1 –Testing phase
<b>Deliverable name:</b>	D. 4.1. Feasibility study for PP6- Central Adriatic Ports Authority pilot action
<b>Type of deliverable</b>	Report
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## II. EXECUTIVE SUMMARY

The port of Ancona is as a strategic reference point in the Adriatic area for all passengers willing to reach the Balkans and the South-Eastern Mediterranean, in line with its historic vocation as a " gateway to the East".

Thanks also to its privileged geographical position and competitive transit time to Balkan countries and Greece, the port of Ancona holds nearly 19% on the international ferry passengers flows of the Italian ports. Most of ferry passengers are coming from Western and Central European Countries, making Ancona a core port to link the EU with the South-Eastern Mediterranean in the framework of the Adriatic and Ionian Macroregion.

According to the application form of ADRIGREEN project, the implementation of Central Adriatic Ports Authority pilot action will be realised in the port of Ancona, covering the following macro area:

- ✓ Implementation of integrated timetabling and information for passengers that must continue their travel by other means of transport.

The aim of this Feasibility Study (deliverable 4.1.) is to outline the reasons underpinning the pilot action choice, its benefits in terms of improved passengers' flow and the internal monitoring mechanism to ensure the efficient realisation of actions' output.

In addition, this document will underline the feasibility and transferability of the pilot action, contributing to project transnational approach.

### **III. BACKGROUND OF THE PROJECT**

One of the main problems that characterize the Adriatic coastal area is the imbalance in the development of infrastructure and means of transport, caused by a low level of investments and innovation. Italy and Croatia are rich in maritime cities, which have to deal with a very high number of passengers, especially during the summer season. Even though the road transport is still predominant, the number of people that are reaching Adriatic cities by ferry and by plane is significantly increasing year by year. However, most of Adriatic ports and airports are suffering from lack of integration with other means of transport that affect the concept of seamless intermodal transport in the Region.

ADRIGREEN- Green and intermodal solutions for Adriatic ports and airports, financed by the INTERREG V-A Italy Croatia CBC Programme 2014-2020, intends to improve the integration of Adriatic ports and airports with other means of transport by testing intermodal operational and technological solutions.

The project has started in January 2019 and it is expected to end in January 2022. The total budget amounts to 2.104.217,00 EUR, 85% of which is co-financed by the ERDF fund (European Regional Development Fund). The project, led by Pula Airport Authority, will be implemented in close cooperation with nine project partners:

1. Pula airport (Lead Partner)
2. Dubrovnik airport
3. Airports of Apulia
4. AIRimum 2014 S.p.A.
5. Abruzzo Airport Management Company
6. Dubrovnik Port Authority
7. Central Adriatic Ports Authority

8. Pula Port Authority
9. Southern Adriatic Sea Port Authority
10. Polytechnic University of Marche

#### **IV. PROJECT OBJECTIVES, PROJECT APPROACH AND COOPERATION NEEDED**

##### **Project objectives**

Low level of integration among different means of transport and insufficient investments in sustainable and low-carbon transport technologies are characterizing several regions in the Adriatic area.

The Croatian and Italian Adriatic coasts are rich in tourist destinations, appreciated by millions of tourists every year. Even though the road transport is still predominant, the number of tourists that are reaching Adriatic towns and cities by ferries and aeroplanes is significantly increasing. Unfortunately, most of Adriatic ports and airports are suffering from lack of connections with other means of transport, causing serious traffic congestions problems, especially during the summer seasons.

The main objective of ADRIGREEN project is to improve the intermodal connection of Croatian and Italian ports and airports, enhancing the processing of passengers during the summer seasons and improving environmental performances of the Adriatic maritime and aviation systems.

Thus, the project implements a set of structured activities based on transnational and cooperative approach. The main idea is to identify and analyse several existing operational and technological solutions that can be easily transferred and adapted by the involved ports and airports. Once the solutions have been identified and analysed, the project partners

will test them, improving intermodal connections and putting in practices new schemes for sustainable management of ports and airports. The objective of the testing phase will be to demonstrate the feasibility, the effectiveness and the replicability of the identified solutions.

Finally, the project will disseminate its results to other ports and airports, so that the operational procedures and technological innovations can be successfully transferred and used.

### **Project approach**

Considering that all involved territories are facing similar problems, the project will implement all activities with a participative and transnational approach.

The first step will be to perform a detailed and in-depth identification and analysis of existing solutions for lowering airports/ports environmental impacts and for intermodal connections of ports/airports with other means of transport and to identify a set of possible schemes to be easily adopted in territories involved in the project. This activity will contribute to solving one of the main issues related to intermodal connections and low environmental performances: lack of knowledge regarding potential, smart and suitable solutions that could significantly improve the processing of passengers and decrease the environmental impact of transport activities in Adriatic basin. The research will be followed by a detailed environmental assessment and by the realisation of specific Action Plans where all identified measures will be described.

The second step will be to test the adaptability and efficiency of identified solutions on ports and airports of ADRIGREEN project. Each partner already identified its major problems to be tackled by the testing phase: smart solutions to connect ports and airports to local public transport systems; integrated timetabling and information for passengers;



new services with public and private transport services and reducing of energy consumption in airport/port facilities. Each testing phase will strictly pursue a transnational perspective since the final aim is to test solutions, which could be easily adapted in each area involved in the project. In fact, the project will organize also four transnational training for staff working on ports and airports (not only those involved as partners) to improve their knowledge on technological solutions and procedures for both lowering the environmental impacts and planning new intermodal connections.

The final step of the project will be the dissemination of the tested solutions to all ports and airports located in the Adriatic area.

### **Cooperation needed**

The project intends to support partners in testing some innovative schemes to speed up the transit of passengers and to make their facilities environmental-friendly with the purpose to adapt and replicate them, not only within the partnership but also in other Adriatic regions. This is the main reason why the project goal cannot be efficiently reached at local/regional level.

The challenge of the project is to contribute to the creation of effective premises to make the Adriatic area better connected and its transport system more environmentally friendly. This challenge can be addressed only if existing practices, operational and technological solutions, and awareness-raising campaigns create synergies and produce a capitalization effect.

The testing phase (WP4) is a very important part of this project and its highly transnational implementation approach gives the possibility to each partner to benefit from results achieved by other partners.

Pilot actions are identified according to the following areas:

- ✓ implementation of low-cost and smart solutions to better connect airports and ports with the local public transport systems, such as railways and public bus lines;
- ✓ implementation of integrated timetabling and information for passengers that shall continue their travel by other means of transport (Central Adriatic Ports Authority Pilot action);
- ✓ adoption of smart solutions to improve waste&water management and to reduce energy consumption in small-medium regional Airports;
- ✓ new protocols with public and private transport providers to experiment with new services to speed up the process of passengers from/to touristic destinations which are not well-connected.

In WP4, the partners will have the possibility to identify some possible win-win solutions and to test concretely their efficiency. Each partner will consequently benefit from testing solutions carried out in other partners' areas. During the testing phase, the partners will have the opportunity to evaluate together the feasibility and effectiveness of identified solutions to have useful information for future similar investments.

Through the transnational approach, the definition of both Joint Action Plans and the Manual on identified solutions and practices will ensure the comparability of data beyond the partnership.

## V. NEEDS ANALYSIS CENTRAL ADRIATIC PORTS AUTHORITY

The Central Adriatic Ports Authority is one of the 16 Italian Ports Authority established by the Italian law 84/1994, as updated by the Italian Legislative Decree 169/2016 and subsequent amendments and additions, which identifies the competence of the Central Adriatic Ports Authority on the ports of Pesaro, Falconara Marittima, Ancona, San Benedetto del Tronto, Pescara e Ortona, located in Marche and Abruzzo regions.

The port of Ancona is the main port of the Central Adriatic Network and core port of the SCAN-MED Corridor, a crucial north-south axis for the European economy within the TEN-T network.

In addition to significant freight traffic, the port of Ancona is as a strategic reference point in the Adriatic for all passengers who intend to reach the Balkans and the South-Eastern Mediterranean, in line with the historic vocation of the port as a " Gateway to the East".

Thanks also to its privileged geographical position and competitive transit time to Balkan countries and Greece, the port of Ancona holds nearly 19% on the international ferry passengers flows of the Italian ports. Due to recent road infrastructure improvements, the catchment area of the port of Ancona has increased, as well as its connections to the Italian Western coast.

Indeed, the Doric port is connected during the whole year with Croatia, Albania and Greece, thanks to regular ferry services allowing the transport of goods and passengers.

Some data are provided below:

- Daily departures for Greece (Igoumenitsa-Patras): three companies operating two services (1-2 departures/day)

- Main Italian port on the Italy-Croatia ferry traffic (Split and Zadar in the summer season. Two companies in the summer season operating two services on the Ancona-Split line);
- Regular line to Durres (Albania).

In 2020, passengers traffic has been affected by the COVID-19 pandemic crisis.

Passengers passing through the port of Ancona in 2020 were 376.989, -68% compared to 2019. Borders were closed for tourist purposes for several weeks and the Jadrolinija connection to Croatia was interrupted from 10<sup>th</sup> March 2020 to 26<sup>th</sup> April 2020, while Snav, generally beginning its season in mid-April, started only on 25<sup>th</sup> June 2020. On the Albanian route, Adria Ferries suspended the connection from 4<sup>th</sup> April 2020 to 7<sup>th</sup> May 2020. The connections with Greece were regular, however, only the traffic of goods was allowed for several weeks.

Since 2020 was an unusual year for passengers' traffic, 2019 data are reported below, as a significant benchmark for the needs analysis underpinning the feasibility study of the pilot action of the Central Adriatic Ports Authority within Adrigreen project.

In 2019, 1.189.441 passengers transited in the port of Ancona, + 3% on 2018, 1.089.332 of them used ferries.

The number of passengers to/from Greece (772.540) and Croatia (218.499) were stable compared to the previous year, while there was an increase in the number of transits for Albania (98.155 passengers compared to 90.832 in 2018, with an increase of + 8%).

In addition to ferry passengers, there was a 49% increase on 2018 in cruise passengers, a significant figure compared to the national average, equal to 11.2%, recorded for the cruise segment (Source: "Ship2Shore"). In particular, cruise passengers in transit in the port of

Ancona were over 84.000, those embarking/disembarking over 15,000 and about 21% of the cruise passengers on the MSC Sinfonia cruise chose Ancona as their port of departure.

The Adriatic shores are an increasingly popular destination for tourists, also due to the significant historical and cultural heritage surrounding their ports.

However, the trend of the tourist flow is not homogeneous during the year, but has peaks during the summer season, creating congestions on city traffic and the infrastructures involved.

Thus, the Central Adriatic Ports Authority decided to focus on new services for passengers transiting to the port of Ancona.

In particular, the Central Adriatic Ports Authority decided to create and test an integrated system containing timetables and information for passengers who must continue their journey with other means of transport.

Further details are provided in the following chapter.

## **VI. DESCRIPTION OF PILOT ACTION IMPLEMENTED**

The Central Adriatic Ports Authority will implement several solutions to speed up the passengers flows from/to the port of Ancona. In particular, it complies with the second pilot action field identified by Adrigreen project “implementation of integrated timetabling and information for passengers that must continue their travel by other means of transport”.

According to the needs analysis performed, the pilot action will address ferry passengers, acting on two different levels:

Improved connection between the ticket office “Ancona Ferries check-in” and the ferry quays, as well as port connection with the local public transport system and railway station:

The ticket office is located in a different port area from the ferries quays. To ease passengers flow, the Central Adriatic Ports Authority, in close collaboration with the local public transport company, provides to passengers arriving in/departing from the port of Ancona a bus line dedicated to the connection of the “Ancona Ferries check in” with ferries’ quays.

Furthermore, Adrigreen pilot action wants to improve the accessibility and the connection between land and sea, providing dedicated signage to smooth passengers’ flow and ease the interconnection between the port, the public transport system and the railway station.

#### Installation of variable message panels

The Central Adriatic Ports Authority intends to install variable message panels in a strategic area, to catch passengers embarking or disembarking in the port of Ancona.

The panel is conceived to give updated on-time information on:

- The number of quays, the dedicated ferry line and the time scheduled for departure;
- The local public transport to reach the railway station;
- The trains in Ancona railway station.

The panel is equipped with software able to guarantee an efficient and on-time information flow between three different sources of information (ferry related information as well as local public transport and railway ones).

## **VII. FINANCIAL AND ENVIROMENTAL ANALYSIS**

The Central Adriatic Ports Authority, as public body, is subject to public procurement procedure laws.

Taking into account the technical parameters and the operational nature of the panels, attributable to industry-standard equipment, the tender procedure to meet the operational needs related to the procurement is identified by art 36, paragraph 2, lett. a) of Italian Legislative Decree n. 50/2016 and subsequent amendments, using the „lower price criterion“ according to art. 95, paragraph 4, lett. b), in the form of “Bid-at-three”.

Adequate market researches will be performed, allowing a sound comparison of offers in terms of price and quality, together with a profound assessment of the adequacy of the price.

In compliance with Italy- Croatia Programme procedure, as well as with Italian Laws, the procurement procedure is in line with the principle of efficiency, effectiveness and economy.

Concerning sustainability, LED lighting will be inserted as a requirement for screens purchase, as it has a great performance both from an energy and economic point of view, contributing to its environmental sustainability.

Besides, screens will promote the use of local public transport to reach the port of Ancona, creating a positive indirect impact on port-city relations.

## **VIII. RISK ANALYSIS**

The Central Adriatic Ports Authority participated to several project meetings to share project implementation and to coordinate project activities.

In addition, it has performed qualitative risk analysis for different stages of feasibility study (FS) and pilot action implementation, as follows:

- ✓ Preparation phase: it includes steps that are to be fulfilled before the

development of FS;

- ✓ Implementation phase: it includes steps that are to be taken for the purchase of equipment or for implementing pilot action.

For each phase, the Central Adriatic Ports Authority outlined a risk matrix evaluation, composed of the following phases:

- ✓ Risk identification: all types of risks that can occur needs to be identified and addressed;
- ✓ Risk assessment: based on prescribed methodology, each risk shall be measured and assessed based on the probability of occurrence and impact on the project objectives achievement;
- ✓ Corrective measures and mitigation measures: measures prescribed by engaged parties to mitigate risk to an acceptable level. Acceptable levels of risks are moderate or below, other risk levels should be addressed by appropriate measures.

The qualitative risk analysis is based upon a combination of impact and probability and is evaluated according to the risk matrix below.

Probability \ Impact	I	II	III	IV	V
1	Low	Low	Low	Low	Moderate
2	Low	Low	Low	Moderate	High
3	Low	Moderate	Moderate	High	High
4	Low	Moderate	High	Very High	Very High
5	Moderate	High	High	Very High	Very High



**Table: Qualitative risk analysis for FS and WP4 implementation phase (Identified risks shall be monitored and evaluated through entire Action plan and FS lifecycle).**

Type of risk	Risk description / Effect on the project	Prob.	Impact	Risk	Measures implemented/mitigation measures of Central Adriatic Ports Authority
Delay in start-up of project activities	Possible delays in signing the Subsidy contract, Partnership agreement or delays in establishing internal project team could result in not achieving prescribed timeframe for deliverables nor spending forecast and consequently in project budget decommitment.	V	1	Moderate	The Central Adriatic Ports Authority appointed its ADRIGREEN project team from the official starting date of the project (01/01/2019) before the signature of the SC and PA in order to start implementing activities on-time.
Programme guidelines delayed adoption	Delay in adopting Implementation manual could severely influence partners capability to prepare procurement procedures which can result in mistakes during procurement process and financial corrections.	I	5	Moderate	The Central Adriatic Ports Authority, as public body, has to follow Italian Laws on public procurement, as well as Italy- Croatia Programme ones. In addition, the First Level Control officer (FLC) has been appointed from the beginning of the project.
Replacement of key personnel	Due to the envisioned timeframe of the project, key personnel may change.	IV	1	Low	The Unit dedicated to European Project of the Central Adriatic Ports Authority is composed by three employees skilled in EU project management and one head of Unit. A close cooperation among them, in case of substitution of project team member, will ensure a smooth management of the project.

Lack of sufficient communication between WP coordinator and partners	Not adequate communication between WP coordinator and partners may underpin project implementation.	II	5	High	The COVID-19 pandemic has underpinned the possibility to organize in presence events. Therefore, on line SC meetings and bilateral meeting, e-mails and phone call were organized to ensure an efficient communication flow among all partners.
Delays in public procurement publication	If all necessary procurements related to the project are not adopted and approved on time within the partners organization, equipment and related service may not be contracted and project objectives won't be met.	II	5	High	The Central Adriatic Ports Authority commitment towards ADRIGREEN objectives is ensured, as project aims are in line with the goals of the organization. In addition, the cooperation between the EU Project Unit and the Security Unit has been established since project beginning, to share ADRIGREEN objectives and timeline.
Difficult dialogue with relevant stakeholders	The lack of commitment and an inefficient dialogue with relevant stakeholders may weaken and delay the realization of the pilot action.	I	5	Moderate	The Central Adriatic Ports Authority shared ADRIGREEN project objectives with relevant stakeholders from the beginning of the project. The upgrade of passengers flow in the port of Ancona and the promotion of the local public transport system and trains to decrease traffic congestions are a common priority of relevant stakeholders. Furthermore, The Central Adriatic Ports Authority has received a positive feedback from RFI (The Italian Public Company managing railway lines) for sharing on-time data of trains arriving/departing from Ancona railway station, proving also technical requirements for the panels dedicated to the realization of the pilot action.

## IX. CONCLUSIONS

Within WP4, the partnership will put into practice several solutions to test new mechanisms to speed up the passengers processing from/to airports and ports and as well as technological innovation to improve environmental performances of transportation facilities involved in the project.

The Central Adriatic Ports Authority's pilot action is in line with the area identified by ADRIGREEN project "implementation of integrated timetabling and information for passengers that must continue their travel by other means of transport".

In particular, taking into consideration the strategic position of the Port of Ancona for ferry transport, as outlined in the needs analysis, the Central Adriatic Ports Authority's pilot action will address ferry passengers in the port of Ancona, acting on two different levels:

- ✓ Improved connection between the ticket office "Ancona Ferries check-in" and the ferry quays, as well as port connection with the local public transport system and railway station.
- ✓ Installation of variable message panels

The detailed risk analysis has identified events that may underpin activities realisation, providing mitigation measure to ensure the smooth development of the project and paving the ground to an effective testing phase.