Interreg
Italy - Croatia
ADRIGREEN

EUROPEAN UNION

GREEN AND INTERMODAL SOLUTIONS FOR ADRIATIC AIRPORTS AND PORTS

ADRIGREEN

INTRODUCTION

ADRIGREEN – Green and Intermodal solutions for Adriatic airports and ports is a cross-border cooperation project co-funded by Interreg V-A Italy-Croatia CBC Programme;

It focuses on the intermodality of Adriatic ports and airports with other transportation systems and on setting greener environmental standards.

Duration: 36 months (1 January 2019 – 31 December 2021)
Total budget: 2.104.217,00 Euro
Total ERDF: 1.788.584,45 Euro

Italian and Croatian maritime cities are popular tourist destinations and deal with heavy flows of passengers, especially during the summer season.

The number of international visitors reaching Adriatic cities by ferries and airplanes is increasing year by year; however, most Adriatic ports and airports still suffer from lack of integration with other modes of transportation, causing serious traffic congestion problems.

Such uneven development of infrastructures and transport interconnections is a cross-cutting issue in the region and is primarily caused by low level of investments and poor approach to innovation.

ADRIGREEN's purpose is to derive an innovative framework of smart solutions for improving the processing of passengers reaching the main touristic destinations of the Adriatic coasts and for enhancing environmental performances of the regional maritime and aviation system.

KEY SPECIFIC OBJECTIVES:

- Analysis of replicable solutions and environmental assessments.
- Testing of smart operational and technological solutions and evaluation of their transferability
- Creation of networking opportunities to disseminate the project knowledge

PROJECT ACTIVITIES AND MAIN OUTCOMES

- **Publication of an international research on suitable solutions to lower airports/ports environmental impact.**
- **Detailed environmental assessment of involved ports/airports**
- **Realization of 2 Join Action Plans for intermodal passengers transportation from/to ports & airports and for a sustainable management**
- **Testing of 6 smart solutions in Pula, Dubrovnik, Rimini, Ancona, Pescara and Bari**
- **Elaboration of a cross-border technical manual with all identified and tested solutions, as well as practical indications on how to successfully replicate such actions**
- **Establishment of the first Cross-border Forum of Green and Intermodal Ports and Airports to exchange knowledge with local authorities and institutions operating in the transport**
- **Four international trainings for technicians and operators on how to adopt tested solutions (2 trainings focused on intermodality, 2 trainings focused on environmental sustainability).**

PARTNERSHIP

Pula Airport Ltd (Croatia)
Dubrovnik Airport Ltd (Croatia)
Airports of Apulia (Italy)
AIRiminum 2014 S.p.A. (Italy)
Abruzzo Airport Management Company (Italy)
Dubrovnik Port Authority (Croatia)
Central Adriatic Ports Authority (Italy)
Pula Port Authority (Croatia)
Southern Adriatic Sea Port Authority (Italy)
University Polytechnic of Marche (Italy)

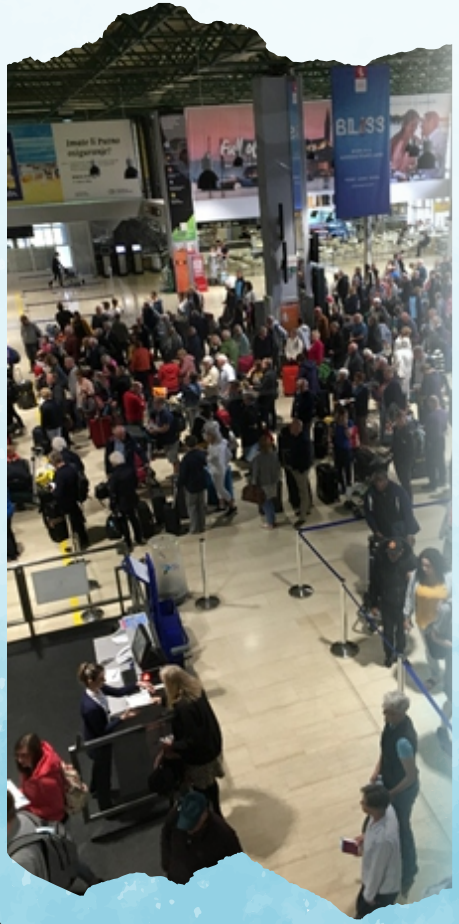
ADRIGREEN consortium brings together leading Croatian and Italian ports and airports motivated to work together to make their facilities greener and more sustainable.

The consortium is well-balanced both in terms of partners' geographical distribution and ports/airports representation.

Scientific guidance is also guaranteed by the participation of one technical partner - the University Polytechnic of Marche.

PULA AIRPORT LTD.

Lead partner



Pula Airport is the largest international airport in Istria region. Its mission is to provide high quality services for the handling of passengers, aircraft landing, cargo and catering.

The Airport is organized in 4 departments (traffic, commercial, technical, development and financial) and other independent services.

The nearby cities of Pula, Rovinj, Poreč, Umag, Rabac are very popular tourist destinations, especially in the summer season; the passenger traffic has indeed greatly expanded (with an increase of 103% from 2014 to 2019) and reached 777.568 yearly passengers in 2019. Main origin countries are the UK, Germany, Russia, Sweden and the Netherlands.

In light of this situation, Pula Airport set a series of goals aimed at keeping pace with future growth: increase the satisfaction of passengers, adopt new technological solutions, improve the quality of all activities and services, implement services in accordance with passengers' needs, traffic type and global standards.

The current development of airport facilities is the result of an efficient cooperation with the local community, the County of Istria and especially with the Istrian Tourist Board.

MAIN CHALLENGES

One of the general and long-term challenge of Pula Airport is the implementation of green, modern, technologies in order to improve the overall environmental performance.

The main challenge is represented by the improvement of the integration with the local community, as well as with ports and other airports in the area, by applying environmental-friendly modes of technology and transportation to mitigate environmental impacts and carbon emissions.

Electrification and solar energy clearly appear as the fastest and most cost-efficient technological solutions to decarbonise transport. Pula Airport is particularly oriented toward this kind of resources as It is located in open spaces, with few tall buildings in the surroundings, few factories around and poor road traffic. The Airport has therefore a good potential to efficiently harness solar energy through solar panels.

In application to ADRIGREEN's goals referred to transport intermodality in ports and airports systems, Pula Airport is encouraging investment in green technology through electrification of private vehicles.

The market for electrical vehicles has experienced rapid growth in the past few years: rent-a car companies are starting to offer electrical vehicles to incoming passengers and this kind of transportation is getting more and more popular. Until recently, for example, Pula Airport was lacking Vehicle Charging Stations and this discourages passengers from renting electrical vehicles.

The administration thus opted for installing a Public Solar Electrical Vehicle Charging Station equipped with solar panels and fulfilling the highest EU quality standards. This represented not only an achievement in terms of airport efficiency, but has also contributed to the promotion of environmental awareness in the area.

“Pula Airport is on a journey to become an eco-friendly airport. We are going green in response to increasing pressure on the aviation industry's environmental impact, and we are adopting greener elements into operation strategies.

A significant portion of our emissions is from vehicle transportation onsite for moving passengers and freight towards aircrafts and among terminals, so there is a wide margin to adopt greener measures. Solar energy is especially fit for us to exploit, contributing to reduce greenhouse gas emissions and become more carbon-neutral. ADRIGREEN is acting as an initial boost for Pula Airport to combine growth with energy efficiency and environmental performance.”

Nina Vojnić Žagar, Pula Airport CEO

DUBROVNIK AIRPORT LTD.

Dubrovnik Airport is situated in Dubrovnik-Neretva, the southernmost Croatian county.

The main characteristic of this region is its transport isolation from the rest of the country and consequently from the rest of Europe; air transport is therefore the most important vector to reach both the national territory and the world.

Being a popular tourist destination, traffic at Dubrovnik airport is mostly international (90,8%), especially during the summer season; as for domestic passengers, they mostly travel on the Dubrovnik-Zagreb route, thus replacing a long bus ride. The area served by Dubrovnik airport is much wide and extends to Montenegro and Bosnia and Herzegovina. Dubrovnik Airport brought about opportunities for the younger population to find employment in the third sector. A total of 44 companies and enterprises operate in the Airport.

The Dubrovnik Airport recorded a constant increase of yearly passengers turnover in the last 4 years-average growth of 13% per year- thanks to favourable economic development and general positive global development of the tourist industry.

MAIN CHALLENGES

Dubrovnik Airport is connected to the rest of the region with state road links, but with insufficient traffic capacity to enable efficient accessibility as there is no highway or speedway. Along with poor road accessibility, railway links to the city are also lacking. New innovative solutions are planned to be implemented according to European trends and standards, particularly applications and services like car-sharing and bike sharing. Airport electric mobility has already been enhanced by implementing pilot projects and engaging stakeholders to encouraging sustainable mobility ideas. The main challenge still concerns how to decrease modal ratio of cars in favour of public transport.

Currently, Dubrovnik Airport has two major strategic goals that are set in order to achieve environmental efficiency: the first is the reduction of

airport air pollution, as according to recent studies the airport itself is significantly contributing to air pollution in the surrounding area; the second one is an integration of Environmental Management System. Due to the high number of implemented environmental protection measures in recent years, the challenge consists in coherently implementing new measures and future systems in already existing protocols and practices.

“ ADRIGREEN represents a unique opportunity for Dubrovnik Airport to continue its development towards an environmentally-friendly dimension. Thanks to the project, the Airport will analyse and evaluate existing and future strategies, concepts and technologies to improve intermodal solutions. Dubrovnik Airport is especially interested in better handling passengers and baggage traffic flows at the airport, and in opportunities to implement new innovative technologies according to the latest environmental and sustainable development principles. The new solutions tested at the Airport will reduce air pollution and better integrate transport systems for the whole surrounding region. ”

Hrvoje Spremić, Project Manager

“ Nowadays we all strive to contribute more to our Planet Earth and reduce Co2 footprint. Therefore, all projects concerning lower environmental impact are more than welcome. Taking into consideration the increase of passengers from year to year in the City of Dubrovnik, it is necessary to work on benefit for not just the passengers, but locals as well. The project ADRIGREEN is recognized as a way of improvement in the integration of Dubrovnik Airport mode of transport in operational mode. The project ADRIGREEN is a good practice in technological and operational sense. ”

Marina Lazarević, Board Member of Dubrovnik Development Agency

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AIRPORTS OF APULIA

The Company Airports of Apulia Ltd manages the “Apulian airport network”, which is composed of four airports - Bari, Brindisi, Foggia and Grottaglie, each with its own mission. This feature made it a national «pilot» case, enabling the Company to develop an integrated development planning of the airports based on functional specifications to be enhanced in line with system optimization. With a catchment area extending beyond the regional borders of Puglia Region and reaching more that 5 million people, the Apulian network covers 80 destinations and gathers 25 airlines. In 2019, it counted 8,2 million passengers: this number has grown of 8% since 2007 and is expected to rise to 10,8 million in 2028. In 2019, Airports of Puglia joined the UN Global Compact on sustainability and corporate social responsibility,incorporating its values at the core of its mission and realizing important investments in the environmental and sustainability field, with particular reference to energy efficiency.

MAIN CHALLENGES

In the last years, the Apulian airport system has experienced an important growth in terms of passenger traffic and development of new routes. From 2007 to 2019, it has registered a significant increase (+8%) in the passenger flow, reaching 8,2 million total passengers arriving and departing from the airports of Bari and Brindisi. This number is expected to further increase, reaching a peak of 10,8 million in 2028 and representing a long-term challenge. As a matter of fact, this important number of travelers requires solid services especially in terms of connections with the city centers as well as with other means of transport. In addition, the potential role of hub from the Salento area represents another important objective to reach; connections are an essential part of it. The airport of Bari is very well connected to the city center through direct solutions offered by private bus companies, a new shuttle bus and a new train service. The connection between the Airport of Brindisi and the city center is served by urban transport services; however, it

is not well connected with suburban transport services, the train station or the port. Airports of Apulia has been working on the development of a system conceived to establish connections to and from the airports to the city center and other points of interest, by implementing both efficient technologies and services. However, further improvements are still needed in order to face future traffic increase. Thanks to the contribution of ADRIGREEN, Airports of Apulia will adopt innovative and smart solutions tested in the Adriatic Region at project level, which will improve intermodal passengers' connectivity. In addition to accessibility and efficiency, sustainability in passenger transport will also be stimulated. The Project will thus enforce the strategic role of the Apulian Airport Network as a Hub in the Southern Adriatic Coast.

“Thanks to the project ADRIGREEN, we will adopt new sustainable models, reducing the environmental impact of our airports and pursuing a socially responsible behaviour, oriented towards the economic, social and environmental sustainability. Airports of Apulia will offer innovative and efficient solutions to passengers who chose to reach Puglia by air, improving the connection network from/to the airports with other transport means, such as buses and trains.”

Marco Catamerò,
General Director of Airports of Apulia

AIRiminum 2014 S.p.A.

Rimini and San Marino International Airport “Federico Fellini” is a totally privately managed structure located in Miramare, 5 km south-east of Rimini and 16 km east of the state of San Marino. AIRiminum 2014 S.p.A. was officially assigned a 30-year concession by the Italian Government, covering the timeframe 2018-2048.

The airport lies 40 meters above sea level; it has one runway and an apron for both civil and military use; the operating service runs 24 hours a day. In 2009 there was a change of status from military airport to civil airport; for this reason, the airport grounds are now shared by AIRiminum for the civilian part and by the army (VII ° Regiment of the Air Force of the "Vega" Army) and the Finance Police for the military part.

“Federico Fellini” airport at a glance:

- Passenger terminal area: 10,000 sqm2
- 17 aircraft stands with different configurations available
- More than 300 parking spaces for cars and motorcycles
- More than 300,000 passengers per year (2018 data: this index has a remarkable growing rate; the capacity has been enhanced up to more than 1million passengers per year)
- More than 4,000 movements per year

MAIN CHALLENGES

According to recent traffic studies, there is a significant growth in demand in terms of passenger traffic for Rimini airport: in 2019, the volume of passengers reached 395.194 units, thus registering a growth of approximately 28% (the highest growth recorded among Italian commercial airports active in 2019). This positive trend is even considered to be underestimated by the

traffic forecasts of the National Airports Plan for the years to come.In this framework, future challenges and objectives can be divided into two categories:

1) Adjustment of the airport infrastructure in compliance with EASA Reg. EU 139/2014,

2) Implementation of a series of interventions aimed at restructuring and transforming the terminal and grounds areas, in order to effectively tackle the expected growth in terms of airport traffic and passengers transit.

With reference to ADRIGREEN project, our challenges and objectives are linked to the possibility of responding, at least in part, to the need to solve environmental issues, thanks to the promotion of new intermodality systems and the adoption of innovative green solutions for the internal mode of transport and for the internal management of the airport.

"We have willingly joined the AGRIGREEN project because it fully meets our corporate strategies about environmental sustainability. We are a young company in the sector and, as such, we can afford a harmonious development that combines legitimate economic interests and environmental protection.The project involving us, in addition to strengthening cross-border links with other subjects related to the mobility of people, will allow us to modernize our vehicle fleet with electric vehicles which will thus further decrease the environmental impact of the airport on the surrounding area."

Mr. Leonardo Corbucci - CEO of AIRiminum 2014 S.p.A.

"The European project "ADRIGREEN" represents an important opportunity for growth for our local and regional territory firstly because it connects Hubs of intermodal transport from different countries of the Union, according to the indications repeatedly reiterated by the European Commission, and secondly because it implements, with concrete interventions, the culture of environmental sustainability in relation to the business activity. The use of electric vehicles certainly represents an effective solution and a good contribution to the environmental sustainability of companies in our area."

Mr. Marco Lombardi - Member of the Confindustria Small Industry Regional Committee (Comitato Regionale Piccola Industria di Confindustria)

ABRUZZO AIRPORT MANAGEMENT COMPANY

SAGA S.p.A. is the regional management company of Abruzzo Airport, located in Pescara. SAGA's mission is to develop the air connectivity within its catchment area, to provide airport services to passengers, airlines and other airport customers in accordance to high standards of quality and safety and to achieve economic sustainability. The Airport is strategically located at the intersection of two main highways -A25 East-West to Rome and A14 North-South along the Adriatic See- with a catchment area extending to wide territories of Central and Southern Italy thanks to excellent road access; the global population living in this area is estimated to be about 1,5 million people. SAGA contributes to foster the social and economic development of Abruzzo Region by specifically targeting the incoming tourism and promoting the expansion of inbound tourist flows. Statistics show that the majority of passengers come from Germany and Switzerland.

MAIN CHALLENGES

Abruzzo Airport is going through a large investment programme for the years 2017-2021 aimed at enhancing its capacity and efficiency. Main actions to be undertaken for airport expansion in terms of passengers flows include refurbishing of runway and taxiways; extension of the present runway up to 2.700 metres; completion of State Flying Corps Infrastructures; delivery of new IT infrastructure; expansion of Passenger Terminal including new commercial spaces, new gates and new security checkpoints. Other key services are being implemented in order to specifically support Abruzzo Airport in committing to ADRIGREEN principles and objectives related to environmental sustainability and cross-cutting transport integration; such measures include the installation of a new water treatment plant, the construction of new parking buildings, passengers walkways and road refurbishing.

“ One of the main issues that characterize our transport system (as well as the entire Adriatic Coastal area) is the imbalance in the development of infrastructures, derived from insufficient investments and lacking approach to innovation. Abruzzo Airport is particularly affected by the lack of integration with other local public transportation, causing serious traffic congestion in the peak season. Our expectation from participating within ADRIGREEN is to obtain an innovative framework for improving both our connectivity with other modes of transportation and also the environmental performances of the local transport network. ”

Enrico Paolini, President of SAGA S.p.a.

DUBROVNIK PORT AUTHORITY

Dubrovnik Port is located in a natural shelter with good access to the open sea and it is one of the most prominent tourist destinations in the Mediterranean. With almost 1.5 million passengers in transit yearly (mostly from cruise vessels), it is the 10th port in the Mediterranean in terms of reception of cruise passengers in transit.

Tourism in Dubrovnik-Neretva County by revenue, employment and export orientation is in the top-level regional economy; cruising tourism is an important segment of it, with Dubrovnik accounting for more than 65% of cruise tourism at Croatian level and more than 90% in Neretva County, producing significant economic impacts on the city itself and overall regional tourism.

In this framework, Dubrovnik Port Authority (PAD) is in charge of construction, maintenance, management, protection and development of maritime goods in the port area; construction and maintenance of port infrastructure; management of port traffic; technical and technological unity and safety of navigation; supervision of the activities of concessionaires.

MAIN CHALLENGES

The overwhelming interest of cruise companies, operators and agencies in Dubrovnik has reached an increasing number of ships and passengers, pressuring on limited infrastructures for this type of tourism. The extreme seasonality of cruise tourism, with its limited space, traffic, urban, technical and organizational capacities, questions the limits of sustainability of such tourism in Dubrovnik. The pressure on the historic part of Dubrovnik during peak traffic loads degrades the local quality of life and reduces the quality of the visitor experience. The long-term goal of the City of Dubrovnik is to ensure that there are no more than 4.000 cruise ship guests within the City at the same time. A more even distribution of demand throughout the year/ week/day and proper management of the visitor's movement and vehicles in the destination would contribute to the sustainability of tourist destination.

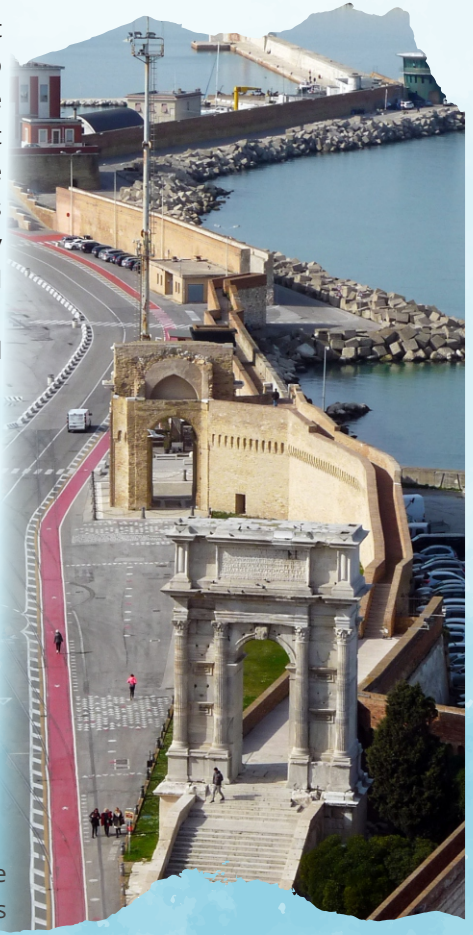
In line with EU policies for a low carbon economy, Croatia has committed to achieving the goals set by the EU as an opportunity to improve existing infrastructure and technological solutions, economy and creation of sustainable jobs. PAD is running activities that will contribute to reduction of greenhouse emissions by tackling the lack of integration of road transport with various modes of transportation, which causes serious traffic congestion problems during the high season. PAD strategy foresees to transform Dubrovnik into a "homeport" through the arrangement of an intermodal terminal in the port area where the city bus terminal is connected with port and airport ones. Besides, Dubrovnik Spatial Plan is a planning document that provides a large public parking space aimed to relieve traffic near the port area in favor of interurban transport arrangements with low sulfur content. The construction of a seaside promenade exclusively dedicated to cyclists and pedestrians is also foreseen in the construction areas of the city, tourist zones and protective green and landscape areas.

"Our expectation from participating in the ADRIGREEN project is to obtain an innovative framework for supporting the Croatian and Italian airports and ports to improve their environmental performances and connectivity with other modes of transportation."

Dario Barbaric, PAD Project Manager

CENTRAL ADRIATIC PORTS AUTHORITY

Ancona is the main port of the Italian central Adriatic coast and the second port for international ferry passengers in Italy (1,15 million passengers in 2019); cruise traffic also plays a role in the port strategy. The ferry lines link the port of Ancona with Greece (Igoumenitsa and Patras), Albania (Durres) and Croatia (Split and Zadar). The line Ancona-Split is the only ferry connection between the two countries active all year round. Moreover, in the summer season the Ancona-Zadar line is opened and a second ferry line offers frequent calls on the Ancona-Split route, making Ancona the first port for passenger traffic between Italy and Croatia. Other summer lines are based in the port of Pesaro, calling the northern island and the Istria peninsula. The ports of Ancona, Pesaro, Falconara, Ortona, San Benedetto del Tronto and Pescara are part of Central Adriatic Ports Authority, established in 2017 and based in Ancona.



MAIN CHALLENGES

Sustainability is a key part of the overall strategy of the Central Adriatic Ports Authority, as it is conceived as a factor of competitiveness, a key element for the improvement of the port system and the first aspect to be tackled in a structured port-city relationship. As the ferry traffic represents the main market for the port, and the ferry terminal is part of the town of Ancona, this sector has been the main target for sustainability actions.

The long term objectives foresee:

1) the shifting of the ferry traffic in a new part of the port, away from the town;
2) a strong decrease of air emissions, thanks to the new standards imposed by IMO and the EU green deal strategy

In 2019 a first pilot action was implemented in the form of the Ancona blue agreement, a voluntary commitment of all ferry line companies on the Ancona-Croatia routes

to using cleaner fuel while moored in ports or at departure phase. More than 50% of the ferry calls in 2019 are affected by the Agreement, with a reduction in SOx emissions of more than 30 tons. Currently, the port authority and ferry lines are assessing the potential opportunities coming from alternative fuels and electricity, according to the most recent strategies of the EU.

The participation in the ADRIGREEN project will allow the promotion of environmentally sustainable and efficient modes of transport for passengers of the Port of Ancona to reach the main public transports hub. This is particularly important to improve the service quality for passengers travelling by train and by ferry. Ancona central station remains the most efficient solution for ferry passengers as it is reached by long-haul trains and served by several public transport lines. To that extent, the port authority will improve the availability of information on train and public transport to reach the train station for passengers.

“ Green mobility is an essential part of the global process of greenin transport. Integrated transport modes, as train and ferry, have already proved the capacity to provide efficient solutions for passengers to reach their destinations with comfort and reducing the carbon footprint. As port authority, we want to improve our services to support passengers that choose to travel in a sustainable way. ”

Rodolfo Giampieri,
President of Central Adriatic Port Authority

PULA PORT AUTHORITY

Pula Port Authority is a nonprofit body founded by the Croatian County of Istria Internal organization of PPA for handling interaction and functional connection across different organizational units concerned in the administration of Pula maritime facilities.

The Port Authority is divided into 12 small port areas, with Pula harbour acting as the most important element for the city. The harbour is indeed located very close to the city centre and close to the Amphitheater of Pula, offering a direct access to the city through more than 300m of coastline for vessels and a 50m-long pier.

The main activities in charge of Pula Port Authority are construction, maintenance, management, supervision, protection and development of the maritime domain – including both the port area of the city of Pula and of nearby municipalities; management of all kind of port traffic for public passenger transport and transit of goods; delivery of public service and operative tasks.

Being only at 10-minute walking distance from Pula city centre, passenger connections between the main port and the town do not face major challenges. As for public transportation, the walking distance from the port to the main bus station is 6-7 minutes and only 3-4 minutes to the train station. From the port, passenger catamaran lines to the nearest islands and to Venice are also available.

MAIN CHALLENGES

Pula Port Authority is currently undergoing an expansion and renovation process investing wide sections of its administered territory. A fist measure to be implemented concerns the empowerment of pedestrian facilities along the port coast, consisting in promenades and general valorization of the environmental landscape of the surroundings.

The major infrastructure project is planned to be the construction of a cruise terminal near the city on Rt Guc Bay, which will expand the surface and

scope of Pula harbour by establishing well-defined commercial areas within the port: international ferry dedicated section, cargo port, cruise port area and local transport-oriented harbour infrastructure. In this framework, the main challenge consists in developing new solutions combining effectiveness, energy efficiency and environmental sustainability, all while adopting measures oriented to support the infrastructural development and connectivity of the entire regional area. Such commitment is in line with the general objectives pursued by ADRIGREEN in application to the Adriatic macro-region.

“ The expectations of Pula Port Authority from the ADRIGREEN project are educating employees on the ecological way of improving the port facilities; creating potential regional plans that combine the development of structural cooperation and development strategies; fostering opportunities for infrastructural development of the entire area. Other key elements to be promoted are the awareness of the local community about the importance of intermodality in environmentally friendly transport and the constant modernization of adopted solutions. Cooperation with partners will help create conditions for more effective improvement and dialogue for future projects. ”

Dalibor Brnos, Director of Pula Port Authority

SOUTHERN ADRIATIC SEA PORT AUTHORITY

Southern Adriatic Sea Port Authority manages the ports of Bari, Brindisi, Manfredonia, Barletta and Monopoli. The five-port infrastructure includes 10 quays of approximately 21 km of total length and more than 4 km of handling and berthing facilities, connected to the rail and road network and served by 2 major international airports. Bari is a turnaround port-homeport with a modern and fully equipped Cruise Terminal, close to the heart of the City. Many people work in the port area; consequently, the sustainable development of economic activities in the port are very important for the local development itself. A Port Community System called GAIA, managed by the Port Authority, supports the management of security controls provided by Port Security Plans as well as port logistics. The passengers areas are divided into Schengen and non-Schengen with stations dedicated to security controls by police. The 2019 statistics showed that the passengers flows were about 1.191.753 transits, 680.021 of which are cruise passengers and the rest are ferry connections.

MAIN CHALLENGES

One of the main advantages deriving from ADRIGREEN project will be the results of the international survey, which will bring together a series of intermodal solutions that could be adapted to most ports and airports located in the Adriatic area. In this way the southern ports will be able to identify the practices and solutions that best adapt to the territorial context. The action plan, in order to propose more appropriate solutions to the other ports / airports located in the region, will focus on identifying measures that could be aimed at: improving local air quality by reducing the emission of air pollutants that contribute to the local EU air quality limits; reducing greenhouse gas emissions to help mitigate climate change as well as the impact of noise; supporting local communities with noise mitigation and compensation systems; monitoring the use of energy and resources in consideration of their efficient and effective consumption;

preventing waste production; reducing water consumption and ensuring better wastewater treatment.

“ ADRIGREEN aims to promote the integration of Croatian and Italian ports and airports with other modes of transport to improve both passengers experience and environmental performance. To do this, activities will be based on a transnational, cooperative approach. Southern Adriatic Ports Authority will contribute through the identification and analysis of existing operational and technological solutions in order to enhance intermodal connections and encourage practices for sustainable management. Last but not least, the project will disseminate the results of the tested solutions in order to transfer operating procedures and technological innovation. ”

Simona De Santis - Project Manager

UNIVERSITÀ POLITECNICA DELLE MARCHE

UNIVERSITY POLYTECHNIC OF MARCHE

The Università Politecnica delle Marche (UNIVPM), founded in 1969, is one of the leading mid-sized universities in Italy, with 17.000 Students enrolled in 48 Degree Programs, and 12 Departments within 5 scientific areas: Engineering, Medicine, Economics, Biology and Agriculture.

The Department of Civil and Environmental Engineering and Architecture (DICEA) and the Department of Industrial Engineering and Mathematical Sciences (DIISM) contribute to the ADREGREEN project. Both departments are today among the 180 Italian Outstanding University Departments as defined by Italian University and Research Ministry.

UNIVPM participates in over 50 highly competitive European research projects (FP7, H2020) and takes part in several programs promoting and sustaining research, international collaboration and mobility. Moreover, the technology-transfer offices, with their multidisciplinary team of experts, provide support and advice on business and intellectual property issues.

MAIN CHALLENGES

UNIVPM departments involved in ADRIGREEN project are incorporating the project experience as a valuable opportunity to challenge existing patterns and modalities of transport towards more sustainable and environmentally efficient models.

Within the DICEA department, the Highways and Transportation research group has a strong commitment in pursuing research projects focused on green and sustainable technological solution in application to the infrastructure system; ADRIGREEN challenges the department's expertise in the effort of applying precise common standards of technological development and environmental efficiency to a variety of transport modalities with an integrated approach and shared goals. DIISM hosts the research groups of Environmental

Assessment and those of Environmental, Industrial, and Building Energetics. Since 1990, DIISM has been coordinating the drafting of the Regional Energy and Environmental Plans of the Marche Region and has developed the related airborne-pollutant/GHG emission inventories. Within ADRIGREEN, the department is called upon to perform similar tasks at international level; this represents a valuable opportunity to apply focused research to wide areas in the Adriatic and to direct future research towards the elaboration of cross-cutting best practices in sustainable traffic management.

UNIVPM, DICEA and DIISM are already particularly active within the framework of European Territorial Cooperation policy – Interreg programs that aim to implement joint actions and policy exchanges between national, regional and local actors from the Adriatic area and to promote a harmonious economic, social and territorial development of the Adriatic Area as a whole.

ADRIGREEN provides them with a further opportunity to deepen existing relations along the Adriatic coasts, with the common aim to enhance sustainable development in the area and promote economic growth opportunities.

“The Italy-Croatia CBC Programme provides an excellent opportunity for building a cooperative network of collaborations between the Highways and Transportation research group of DICEA department and Airport and Port Authorities in the Adriatic. EU-funded research will create a framework for the reciprocal transfer of knowledge between the University and the Authorities in charge of managing the transportation infrastructures. Additional benefits will derive for the mobility of graduate and undergraduate students, who will improve their skills by directly collaborating with the project partners.”

Prof. Francesco Canestrari, Project Manager

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