Action plan for improving the last mile accessibility of Adriatic ports through ICT.

Topic 2: gates and entry/exit tools.

Deliverable no. D.1.3.3

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Introduction

Activity 1.3 is devoted to jointly developing a joint Action plan for improving the last mile accessibility of Adriatic ports through ICT, focusing on port gates Topic 2 "Gate entry/exit tools and procedures".

Following the set-up of the working group per each topic (*LP, PP3, PP6 and PP8 / PP2, PP4, PP5 and PP7*) involve their own stakeholders, exchange the experiences and the feedback gathered and eventually draft the action plan.

Aim of this document is to provide PPs with a common template as to co-design Deliverable D.1.3.3 "Action plan for improving the last mile accessibility of Adriatic ports through ICT – Topic 2".

1. Executive summary

Within Activity 1.3, led by PP2, PP2 - North Adriatic Sea Port Authority, PP4 - Central Adriatic Ports Authority, PP5 - Southern Adriatic Ports Authority and PP7 - Port of Zadar Authority jointly translate the "Strategy for improving the last mile accessibility of Adriatic ports through ICT" (D.1.1.2) into actions focusing on the enhancement of port/terminal gates and entry/exit IT tools and procedures. They jointly break down the goals of the strategy in an action plan for optimising last mile accessibility of Adriatic ports, with specific tasks for each PP, KPIs, time line, financial resources needed.

PPs jointly drafted the strategy setting a vision, objectives and priorities aimed at the optimisation of transport flows and reduction of environmental externalities through IT tools in the cross-border Italy-Croatia area. This strategy is anchored in the need for digital transformation, improved infrastructure, and strategic collaboration among stakeholders to foster a seamless and efficient maritime network. Each partner port plays a distinct yet interconnected role in the Adriatic maritime corridor, highlighting the importance of a unified approach to last-mile accessibility.

Participating partners in Topic 2 are experiencing long gate-in procedures, causing queues of heavy vehicles outside the terminal gates. These inefficiencies impact on the terminals daily operations besides the inconvenience for the truckers that must wait before entering the terminals. The topic 2 group concluded that an increased use of ICT devices can speed up the procedures for the passage of trucks through terminal's gates with a significant reduction of the dwell time.

After the involvement of stakeholders ("Stakeholder involvement report" D.1.3.2), each partner involved in Topic 2 has jointly developed the Action Plan despite each action plan can be different at each partner. However, all the action plans were concentrated on the optimisation of last mile accessibility of ports through ICT with a focus on the increase of the gate access with the help of ICT development. After this phase, the topic 2 partners will implement a pilot action focused on the improvement of ICT system. The use of IT solutions will allow to strengthen and extend interoperability to improve gates and entry/exit tools and to reduce the congestions and the use of physical documents.

Based on the Strategy for improving the last mile accessibility of Adriatic ports through ICT, all project partners have jointly designed the Action Plan. The North Adriatic Sea Port Authority, with its intermodal facilities, emphasizes the need for enhanced IT systems to manage growing traffic volumes. The Central Adriatic Ports Authority and the Southern Adriatic Ports Authority underscore the importance of port community systems (PCS) and advanced traffic management solutions. These ports are leveraging ICT to enhance operational efficiency, reduce waiting times, and improve safety standards, including AI driven systems. Similarly, the Port of Zadar Authority focuses on upgrading its port management systems to improve data exchange and streamline operations.

2. The strategy

The strategic goals that the partners of Topic 2 want to achieve in the domain of improving the last mile accessibility through IT tools are defined as follows:

PP2 - North Adriatic Sea Port Authority

Medium term (5 years):

1. topic no. 2 (gates)

   a. Goal no. 1 - Installing and setting up cameras that, with the appropriate software, are able to correctly read the container ID number (and, possibly, also the vehicle plate) even under disadvantaged circumstances (bad position; bad visibility) and feed the PCS and its data-exchange module.

Long term (10 years):

1. topic no. 2 (gates)

   a. Goal no. 2 - Getting 99.99% of correct data (no errors) read from container and vehicle.

PP4 - Central Adriatic Ports Authority

Medium term (5 years):

1. topic no. 2 (gates)

   a. Goal no. 1 - Full interoperability between the PCS, the Artificial Intelligent System, the AIDA system and the IT systems of rail and road infrastructure

Long term (10 years):

1. topic no. 2 (gates)

   a. Goal no. 2 - Improving the integration in the Adriatic-Ionian MOS through increased efficiency and rationalization of maritime procedures and last mile connections in the port of Ancona

PP5 - Southern Adriatic Ports Authority

Medium term (5 years):

1. topic no. 2 (gates)

    a.   Goal no. 1:

    Ports are open infrastructures whose security is influenced by numerous parameters, such as the flows of people and vehicles. The movement of these flows must be carefully monitored and controlled to ensure proper security management (through the GAIA PCS). Security management must inevitably utilise integrated access control systems to ensure that flows are properly organised.

    Port gateways are the 'gateway' through which last-mile road flows pass, the productivity of which plays an important role in the overall efficiency of the port and the port-city relationship, due to problems such as congestion and air pollution that could occur if they fail to function.

    This investment is necessary to make the traffic of freight vehicles passing through the ports managed by PP5 smoother and faster. The investment consists of the installation of 10 automated vehicle control solutions for the control of vehicles at the PP5 port gates (Ports of Bari, Brindisi, Manfredonia, Barletta, Monopoli and Termoli).

    The IT solution has to be equipped with software capable of dialoguing with the GAIA PCS to ensure a rapid response to the high flows of people and vehicles, with a load balancing mechanism of the server farm itself, based on a genetic controller, to guarantee optimum operating speed and performance.

    Each automated gate control system must consist of at least:
    - OCR camera, for reading vehicle number plates;
    - QR code / RFID card reader, to obtain access authorisation information for GAIA;
    - voice communication system, to obtain support from port security operators;
    - integrated barrier, to allow or deny access to the gate;
    - gate application system;
    - interoperability system (on CED site / on Cloud), to obtain and send data to the GAIA PCS.

    The exact number/type of equipment will be decided with the other PPs in the co-design phase and according to market conditions at the time of implementation.

Long term (10 years):

1. topic no. 2 (gates)

a. Goal no. 2:

ADSPMAM has invested in the digitisation of logistics processes, also taking advantage of the opportunities of European projects. Now the Port Authority must combine digitalisation and sustainability to build a resilient port and logistics hub capable of facing the sector's new challenges, and therefore fit into this context of changing global scenarios that, as recent events have shown, must be ready to face new challenges with resilience, dynamism, and the ability to transform needs into opportunities for growth and development for the port community.

PP7 - Port of Zadar Authority

Medium term (5 years):

1. topic no. 1 (VBS)

    a. Goal no. 1 – Inbound traffic flow data acquisition

    b. Goal no. 2 – Outbound traffic flow data acquisition

Long term (10 years):

2. topic no. 1 (VBS)

    a. Goal no. 3 – Traffic flow management system implementation

3. Identification of the actions

3.1 Mapping the actions

ACTION/MEASURE	ESTIMATED COST	TIME HORIZON
Monitoring and traffic flow management in Venice	*120.000 euros*	*2025*
Entry/exit monitoring and management in the port area	*20.888 euros*	*2025*
Completion of AI system in the ferry port areas	*700.000 euros*	*2026*
Evolution of the AI tracking system for the full digitalization of customs procedures	*631.463,24 euros*	*2026*
Installing automated port gates	*199.000 euros*	*2025*
Installation of video detection system	*102.500 euros*	*2025*

3.2 Setting the actions

PP2 - North Adriatic Sea Port Authority

Action no. 1: *Monitoring and traffic flow management in Venice*	
Description of action/measure *Describe the action foreseen and the expected results from its implementation*	Installation of ICT/ITS tools for the following aims of last mile road accessibility: - monitoring of trucks accessing the port, in order to detect the related traffic. The main function will be to implement a road traffic monitoring system at porto Marghera, that will be connected to a wider monitoring system, i.e. to digitalised information systems of other managing bodies (e.g. motorways, regional entities), in order to implement the

	control of road traffic accessing the port in the entire last mile up to the motorways.
	- digitalisation of inbound/outbound procedures. This will allow a deeper data interchange with the Customs Agency and port terminals through an upgrade of gate and PCS software. In this way, besides containerised freight, digitalisation and automation should also be extended to bulk and general cargo, so that the whole port gate process will be automated.
	- Expected results from the investment are the following:
	- An increased exchange of data for road traffic management through digitalisation (also real-time)
	- Less congestion of the road traffic and the reduction of the environmental impact.
	- Increased multimodal transport efficiency
	Moreover, the Customs Agency will benefit as well, by getting the advantages that an automated system can offer. On top of that, inserting in the PCS the record of the exact moment a particular freight leaves or enters the port can provide further, relevant, information to customs brokers, freight owners and forwarders.
Description of the main steps for its implementation *List and describe in detail the main steps for the implementation of the action (i.e. planning phase, tender procedures, etc...)*	Tender procedure: preparation of the tender documents and implementation of the procedure for the selection of the economic operator able to provided: 1) preliminary study and design 2) the required ICT tools and ensure their installation Planning phase. Preliminary study and design for: - the analysis and planning of a permanent monitoring network of road traffic in the ports of Venice and Chioggia; - the definition of number and typology of ICT tools (e.g. cameras, sensors) and their positioning to ensure the full coverage. Implementation phase: Execution of the service: provision and installation.

Stakeholders involved *List the stakeholders involved. What is their role in the action? Will they be the direct beneficiaries?*	Several stakeholders will benefit from the investment, in particular: - transport operators and terminals - truck companies - road hauliers - forwarder agencies - local and regional public bodies involved in investment planning for infrastructures - Custom Agency
Timeline *Indicate the time horizon for the implementation of the action*	End 2025
Investment cost *How much will cost the construction/realization of the future initiative/action/technology?*	130.000 €
Sources of financing *What are the sources of financing? Private capital, public capital, CEF, etc... How much is the share covered by each of them?*	MILEPORT 55.000 € planning phase 130.000 € implementation phase
Impact of the initiative - environment *How does this action contribute to environmental sustainability requirements and the related reduction of road transport related emissions?*	The investment of IT tools for digitalisation to improve road accessibility and upgrade of PCS will allow the North Adriatic Sea Port Authority to implement the control of road traffic accessing the port and a deeper data exchange. Through digitalisation and automation trucks flows will be streamlined maximising the reduction of CO2 emitted by queuing trucks. In particular, the action contribute to the reduction of traffic congestion and CO2 by: - reducing waiting times for drivers and port and government operators - improving and increasing the flow of vehicles

	- develop the sustainable mobility and strengthen the collaboration with all possible stakeholders - improve and extend the pre-existing services ensure greater and better organisation of the flows
KPIs *Please identify the KPI to be used for measuring the action's impact*	- Reduction of waiting time at the gates - Level of existing IT system upgrading - Number of new processes digitalized - Level of increased monitoring/control of road traffic

Action no. 2 *Entry/exit monitoring and management in the port area*	
Description of action/measure *Describe the action foreseen and the expected results from its implementation*	The action will be developed through the installation of new cameras. The aim of the action is to plan arrivals at the port, by checking in advance whether there are queues or not before entering the port: - Reuse of PCS Advance Notice of the Arrival Module - Handling Module for Management of Entry-Exit Vehicles via advance notice and electronic release - Evolution of the AGS gate system for "Notice of Arrival" verification The impact expected from the investment is the following: - An increased exchange of data for road traffic management through digitalisation (also real-time) - Less queues and congestion of the road traffic and the reduction of the environmental impact. - Increased multimodal transport efficiency

Description of the main steps for its implementation *List and describe in detail the main steps for the implementation of the action (i.e. planning phase, tender procedures, etc...)*	Tender procedure: preparation of the tender documents and implementation of the procedure for the selection of the economic operator that will provide and install the cameras (ANPR – Automatic Number Plate Recognition) in port area.
Stakeholders involved *List the stakeholders involved. What is their role in the action? Will they be the direct beneficiaries?*	Several stakeholders will benefit from the investment, in particular: - transport operators and terminals - truck companies - road hauliers - forwarder agencies
Timeline *Indicate the time horizon for the implementation of the action*	2025
Investment cost *How much will cost the construction/realization of the future initiative/action/technology?*	20.888 €
Sources of financing *What are the sources of financing? Private capital, public capital, CEF, etc... How much is the share covered by each of them?*	Italian Recovery and Resilience Plan
Impact of the initiative - environment *How does this action contribute to environmental sustainability requirements and the related reduction of road transport related emissions?*	The investment of IT tools for digitalisation to improve road accessibility and upgrade of PCS will allow the North Adriatic Sea Port Authority to implement the control of road traffic accessing the port and avoid traffic congestion. Through digitalisation and automation trucks flows will be streamlined maximising the reduction of CO_2 emitted by queuing trucks. In particular, the action contributes to the reduction of traffic congestion and CO_2 by: - reducing waiting times for drivers

	- improving and increasing the flow of vehicles - improve and extend the pre-existing services ensure greater and better organisation of the flows
KPIs *Please identify the KPI to be used for measuring the action's impact*	- Reduction of waiting time at the gates - Upgrading of existing IT system

PP4 - Central Adriatic Ports Authority

Action no. 1: *Completion of AI system in the ferry port areas*	
Description of action/measure *Describe the action foreseen and the expected results from its implementation*	Completion of the current Artificial Intelligent tracking system in the port of Ancona. The current system allows the tracking of trucks embarking and disembarking at the port of Ancona through a system of cameras linked to the artificial intelligent system and able to trace the movements of the trucks and show alerts on the basis on a set of pre-defined rules. The AI system is also fully interoperable with AIDA, the Customs Agency IT software, allowing to the complete digitalization of the custom clearing procedures. The tracing is currently realized only at the gates of the port and at the Scalo Marotti, the customs parking. The action foresees the acquisition of new cameras and their installation for full operability (electricity and optical fiber) also on the path from the ferry gates to Scalo Marotti. The action optimizes the digitalization of customs procedures, thanks to the interoperability of the AI system with AIDA – the IT software of Customs Agency. Moreover, the action contributes to increase the efficiency of the customs and finance checks reducing the risks of fiscal frauds.

Description of the main steps for its implementation *List and describe in detail the main steps for the implementation of the action (i.e. planning phase, tender procedures, etc…)*	3) <u>Planning phase:</u> definition of number and typology of additional cameras and their positioning to ensure the full coverage of the path between the ferry gates and the customs parking and their integration with the existing Ai system; 4) <u>Tender procedure:</u> preparation of the tender documents and implementation of the procedure for the selection of the economic operator able to provide the required cameras and ensure their installation; 5) Execution of the service: provision and installation of the cameras, their integration with the current Ai system
Stakeholders involved *List the stakeholders involved. What is their role in the action? Will they be the direct beneficiaries?*	- Italian Customs agency; - Coast guard - Port operators (maritime agencies and freight forwarders) - Finance corps - Truck drivers
Timeline *Indicate the time horizon for the implementation of the action*	End of 2026
Investment cost *How much will cost the construction/realization of the future initiative/action/technology?*	700.000 € (estimation)
Sources of financing *What are the sources of financing? Private capital, public capital, CEF, etc… How much is the share covered by each of them?*	MILEPORT project (100.000 €) CRESPORT project (120.000 €) Own resources (470.000 €)
Impact of the initiative - environment *How does this action contribute to environmental sustainability requirements and the related reduction of road transport related emissions?*	The action contributes to the environmental sustainability by optimizing the flows of Heavy Vehicles in the port areas, closed to the urban centre and reducing the GHG emissions.

KPIs *Please identify the KPI to be used for measuring the action's impact*	• Reduction of km travelled by trucks in the port areas • Reduction of waiting time at the gates

Action no. 2: *Evolution of the AI tracking system for the full digitalization of customs procedures*	
Description of action/measure *Describe the action foreseen and the expected results from its implementation*	The action includes the following aspects: 1. Real-time tracking of vehicles transporting goods, including agri-food products, in import and export directed to third countries and EU member states; 2. Tracking of vehicles in movement to and from the scanners provided by the Customs Agency; 3. Extension of the Artificial intelligence system for the management of container and RORO traffic at the Port of Ancona and, potentially, at other ports within the Central Adriatic Ports System; 4. Development of the interoperability of the Artificial Intelligent software with the PMIS (Single Window Maritime) system of the Italian Coast Guard and the ISTAT system for collecting maritime traffic data; 5. Enhancing the Port Community System to apply across the entire port system, with the extension of applications connected to the artificial intelligence system; 6. Interoperability with the SUDOCO software (Single Window for Customs and Controls), which the Customs and Monopolies Agency is gradually introducing.
Description of the main steps for its implementation *List and describe in detail the main steps for the implementation of the action (i.e.*	- Management and evolution of the PCS: already contracted. Finalization of the activity: March 2025

planning phase, tender procedures, etc...)	- Management, assistance and corrective maintenance of the Artificial Intelligence system: already contracted. Finalization of the activity**:** May 2025 - Assessment of the non-substitutability of the current artificial intelligence software: already contracted. Finalization of the activity: March 2025 - Depending on the results of the non-substitutability assessment of the current artificial intelligent software, one of the two following options may apply • Contractualization of the provider of the current artificial intelligent software, in case of non-substitutability. • Procedure for the selection of a provider of an artificial intelligent software compatible with the acquired technologies
Stakeholders involved *List the stakeholders involved. What is their role in the action? Will they be the direct beneficiaries?*	- Italian Customs agency; - Coast guard - Port operators - Finance corps
Timeline *Indicate the time horizon for the implementation of the action*	March 2026
Investment cost *How much will cost the construction/realization of the future initiative/action/technology?*	631.463,24 €
Sources of financing *What are the sources of financing? Private capital, public capital, CEF, etc... How much is the share covered by each of them?*	Italian Recovery and Resilience Plan
Impact of the initiative - environment	Expected reduction of GHG: CO2: 73,240 ton CO2e

How does this action contribute to environmental sustainability requirements and the related reduction of road transport related emissions?	CH4: 0,070 ton CO2e N2O: 0,602 ton CO2e
KPIs *Please identify the KPI to be used for measuring the action's impact*	• Reduction of km travelled by trucks in the port areas • Reduction of waiting time at the gates • Reduction of the number of regulations and procedures among all the actors involved • Reduction of the number of disruptions in the implementation of procedures • Number of new processes digitalized • Level of CO2 reduction

PP5 - Southern Adriatic Ports Authority

Action no. 1: *Installing automated port gates*	
Description of action/measure *Describe the action foreseen and the expected results from its implementation*	Design and implementation of no.8/10 automated gates control solution in order to check vehicles at the port gates of the Southern Adriatic Ports Authority (Ports of Bari, Brindisi, Manfredonia, Barletta, Monopoli and Termoli). The IT solution must be equipped with software capable of dialoguing with the GAIA Port Community System in order to guarantee a fast response to the high flows of people and vehicles, with a loading balance mechanism of server farm itself, based on genetic controller, that ensures optimal operative velocities and performances. Each automated gate control system must be composed at least by: ➢ an OCR Camera, in order to read vehicle plates. ➢ a QR code / RFID card reader, in order to get information about the GAIA access authorization. ➢ a voice communication system, in order to get support by the port security operators; ➢ an integrated gate barrier, in order to allow or not the gate access. ➢ the gate application system.

	➢ the interoperability system (on CED premise / on Cloud), in order to get and send data to the PCS GAIA. This investment is necessary in order to lighten and speed up the traffic of goods vehicles passing through the port of Bari and the others port as they confirm themselves as nerve centres, intermodal and sustainable hubs - Bari will be, in the future, on the strategic Ten-t networks, the Baltic-Adriatic corridor, the second trans-European route that will pass through our port of call after the Scandinavian-Mediterranean corridor from Helsinki to Vallett, and therefore the potential as well as the continuous need for growth will be exponential. The cross-border relevance stems first and foremost from the strategic location of each port that is part of ADSPMAM. Bari, in particular, is part of the Ten T corridor and the implementation of activities such as those of the Mileport project will be considered opportunities for the improvement of the port nodes in southern Italy, also in view of the current transport scenario in the Med area and the new global challenges that require further increasing the capacity of the national transport system, from an intermodal point of view, so that it acts as an economic driver able to increase competitiveness also in the southern regions.
Description of the main steps for its implementation *List and describe in detail the main steps for the implementation of the action (i.e. planning phase, tender procedures, etc...)*	1. Needs analysis Preliminary market analysis. 2. Definition of the subject matter of the contract Clear and detailed specification of the good/service/work required. Drafting of the technical specifications and description of the technical requirements. Determination to contract (administrative act that formally starts the procedure). Drafting of tender specifications and other documents.
Stakeholders involved *List the stakeholders involved. What is their role in the action? Will they be the direct beneficiaries?*	The entire port community can benefit, i.e. all port stakeholders, both the operators and the governing bodies of the region, as these types of investments improve transit conditions, contain

	the environmental impact and increase the mobility of flows in the region.
	Public Bodies: Customs Agency, Port System Authority, Ministry of Health, Provveditorato OO.PP., ARPA Puglia;
	Police/Security Forces: Harbour Master's Office, Border Police, Guardia di Finanza, Security Guards;
	Shipping and Port Operators: Shipping Agencies and Companies, Concessionaires, Port Enterprises, Pilot Corps, Moorers;
	Logistics: Transport companies, Freight Forwarders.
Timeline *Indicate the time horizon for the implementation of the action*	ADSPMAM intends to start the procedure in February 2025 and to conclude by the end of the same year
Investment cost *How much will cost the construction/realization of the future initiative/action/technology?*	199.000,00 €
Sources of financing *What are the sources of financing? Private capital, public capital, CEF, etc… How much is the share covered by each of them?*	MILEPORT
Impact of the initiative - environment *How does this action contribute to environmental sustainability requirements and the related reduction of road transport related emissions?*	The action contribute to the reduction of traffic congestion and Co2 in particular by: - reducing waiting times for drivers and port and government operators - improving and increasing the flow of vehicles, passengers and goods - develop the sustainable mobility and strengthen the collaboration with all possible stakeholders

	- improve and extend the pre-existing services ensure greater and better organisation of the flows
KPIs *Please identify the KPI to be used for measuring the action's impact*	✓ Reduction of waiting time at the gates 30% ✓ Reduction of CO_2 emissions 30% ✓ Upgrading of existing IT system 15%

PP7 - Port of Zadar Authority

Action no. 1: *Installation of video detection system*	
Description of action/measure *Describe the action foreseen and the expected results from its implementation*	Purchasing and installing 10 high resolution video detection cameras (hardware), video detection analysis software, 1 video detection server with rack for video processing and storage with cabling. Investment will provide opportunity for obtaining (additional) intelligence related to inbound and outbound traffic flows related to ferry terminals as a necessary prerequisite for structural in-depth analysis and future ferry port processes optimizations on both microscopic (port) and macroscopic (state) levels.
Description of the main steps for its implementation *List and describe in detail the main steps for the implementation of the action (i.e. planning phase, tender procedures, etc...)*	1. Acquiring information about available solutions 2. Definition of the technical requirements 3. Tender 4. Equipment purchase 5. Testing 6. Running phase
Stakeholders involved *List the stakeholders involved. What is their role in the action? Will they be the direct beneficiaries?*	Although PAZ requires no stakeholders to implement this specific action, nor has authority over any stakeholder(s) (potentially) involved, enabling IT systems interconnectivity could help optimize concessionaire (Jadrolinija) business model as well as provide useful traffic related information to any interconnected local/state authority (i.e. City of Zadar,

	local/state road management entities, Ministry of the Sea, Transport and Infrastructure)
Timeline *Indicate the time horizon for the implementation of the action*	2025
Investment cost *How much will cost the construction/realization of the future initiative/action/technology?*	102.500 €
Sources of financing *What are the sources of financing? Private capital, public capital, CEF, etc... How much is the share covered by each of them?*	MILEPORT
Impact of the initiative - environment *How does this action contribute to environmental sustainability requirements and the related reduction of road transport related emissions?*	Implementing video detection system in Port of Gaženica represents fundamental instrument for any sustainability development in port area. Data gathered from this system/activity can enable various optimizations related to traffic flow management in port area as well as optimization on the concessionaire's operational side (i.e. ferry line schedule optimization) both leading to decrease in GHG emissions. Furthermore, integration with other local/county/state entities could lead to additional optimizations and traffic flow harmonization on wider local/national traffic network.
KPIs *Please identify the KPI to be used for measuring the action's impact*	• Number of video detection system for data acquisition and processing • Number of new traffic monitoring ICT system implemented as a baseline for achieving ICT systems interoperability

Conclusions

The participants of the Topic n. 2 "Gates and entry/exit tools and procedures" developed their action plan based on their respective strategy and vision, summarised here below:

Vision of PP2, North Adriatic Sea Port Authority. The aim is to develop a long-term plan, which can be implemented in subsequent steps, in order to have complete coverage of road traffic monitoring, integrated with Customs clearance data and information available from other bodies (such as the terminals, motorways, local/regional traffic providers). The first step is to have a release of the prototype of a single information system with functions capable of collecting and displaying traffic data in real-time in the port area of Venice and Chioggia. To achieve such a goal NASPA will work to improve both the traffic monitoring tools outside port gates, in particular from highway to port, and at port gates level to extend the digitalization already in place to all the freight. This will allow smooth the movement of trucks, accelerate gate-in procedures and reduce greenhouse gases emissions due to trucks queueing.

Vision of PP4, Central Adriatic Ports Authority. The planned measures intend to pursue the digitalization of transport procedures by adopting innovative technologies, such as Artificial Intelligent, and by ensuring the interoperability with the digital platform of the main maritime transport actors: Customs Agency and Coast Guard. The digitalization of transport procedures is seen as a key competitive factor to increase the efficiency of transport operations: it allows to reduce the data and information to be entered in a system by the operators, to reduce waiting time while at the port and reduce the number of KM travelled in port areas, contributing to increase the environmental performance of maritime transport in the last-mile operations.

Vision of PP5, Southern Adriatic Ports Authority. ADSPMAM has invested in the digitisation of logistics processes, also taking advantage of the opportunities of European projects. Now the Port Authority must combine digitalisation and sustainability to build a resilient port and logistics hub capable of facing the sector's new challenges, and therefore fit into this context of changing global scenarios that, as recent events have shown, must be ready to face new challenges with resilience, dynamism, and the ability to transform needs into opportunities for growth and development for the port community. The port and logistics system can and must be a fundamental contribution to the country's economic recovery, an active instrument of Euro-Mediterranean policy and a pivot for cohesion policy and growth in southern Italy. A guarantee and a driving force for the promotion of sustainability and thus automatically gives rise to the need for continuous improvements in traffic management and consequently for actions to mitigate and reduce CO_2 emissions.

Vision of PP7, Port of Zadar Authority. Main prerequisite/baseline for any improvement and optimization process(es) is ability to acquire, process (usually, in real time) and storage of input data. Currently, ZPA as

managing authority on Port of Gaženica (ferry terminal) does not possess any kind of detection system able to provide detailed (real time) information (inputs) about ongoing traffic flow(s) on ferry terminal(s). Therefore, installation of video detection system represents essential tool and primary step towards implementation of ICT system able to provide necessary data/inputs for ZPA as well as all interested stakeholders. Primarly, beneficiary of video detection system beside ZPA could be ferry terminal concessionaire Jadrolinija which could use acquired data for ferry line schedule optimization and better traffic flow data acquisition and information processing. Such optimization could lead to better ferries' efficiency and possible reduction of GHG emissions.

Furthermore, gathered data could also be beneficiary to other local (City of Zadar) and/or national entities in charge for traffic flow optimization(s) like Hrvatske Autoceste d.d. (authority in charge of managing Croatian network of highways), Ministry of the Sea, Transport and Infrastructure as well as any other private/public entity interested in developing any kind of economy, environmental or any other kind of activities.