

ACTION PLAN FOR FOSTERING COORDINATED
MULTIMODAL FREIGHT TRANSPORT THROUGH ICT
SYSTEMS - PORT OF LA SPEZIA

DELIVERABLE D.T3.2.4

Version 1

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1. Executive summary

This document includes the action plan fostering coordinated multimodal freight transport through ICT systems in the node of the port of La Spezia.

Considering the results of the pilot action, it breaks down the goals of the strategy and wish list (WPT1) in specific tasks, KPIs, time line, identification of financial resources and definition of responsible actors.

The development of functionalities of the Corridor Management Platform, Pilot Action of the COMODALCE project for the port of La Spezia, is satisfying this wish list of pre-identified ICT measures. The operators involved along the supply chain shared their needs the detailed analysis of the information flows of the actual IT systems managed by the companies involved and the design of the new solution through the COMODALCE Pilot Action.

2. The strategy and the pilot action

In this section, please recall (=copy-paste) the goals and wish list of actions of the strategy.

Also, please outline the main findings from the pilot action.

As illustrated in the DELIVERABLE D.T1.3.4 - “STRATEGY FOR FOSTERING COORDINATED MULTIMODAL FREIGHT TRANSPORT THROUGH ICT SYSTEMS - LA SPEZIA”, the Port Authority of the Eastern Ligurian Sea identified some initiatives to foster in 5-10 years for the ICT development of the port of La Spezia. The initiatives are the following ones:

Medium term (5 years):

1. Goal no. 1: Development of further functionalities of the Port Community System of La Spezia - APNet
2. Goal no. 2: Sustainable Governance of Port/Logistics Cluster managed by the Port Authority of the Eastern Ligurian Sea combining the activities in the two ports of La Spezia and Marina di Carrara
3. Goal no. 3: Upgrade of the dry port of Santo Stefano Magra
4. Goal no. 4: Implementation of the Customs Fast Corridors, in line with the Fast Corridors 2.0 initiative promoted by the Italian customs Agency
5. Goal no. 5: Digitalization of the rail shunting operations in the "Last Mile" connection
6. Goal no. 6: Integration of the Port Community System functionalities with other systems in non-European countries

Long term (10 years):

1. Goal no. 7: Development of a common model for a national Port Community System within the PLN (National Logistics Platform) and coherent with the National Strategic Plan for Ports and Logistics
2. Goal no. 8: Interoperability between the Port Community System - APNet and the other IT tools used by the actors of the supply chain



The strategy includes a “detailed wish list of ICT measures to be tested in the pilot actions (WPT2)”. This list is also realized on the basis of the identification of the needs of the stakeholders and their previous mapping and management, provided in the D.T1.2.4. - “TERRITORIAL NEEDS ASSESSMENT FOR THE PORT OF LA SPEZIA”.

Therefore, the items of the wish list are reported in the table here below.

Wish list of ICT measures			
Title	Short description	Link to the strategic goal	Link to the pilot action
1.	UPDATING OF EXISTING ICT PLATFORMS (PCS, other Corridor Platforms)	Goal no. 1 Goal no. 2 Goal no. 6	Functions of PCS APNet and other ICT platforms that have to dialogue with the Corridor Management Platform (CMP) foreseen by the Pilot Action, in order to foster their harmonization.
2.	DATA EXCHANGE IN THE CORRIDOR - INTEROPERABILITY BETWEEN ICT PLATFORMS (eg. PCSs, other Platforms, PIC)	Goal no. 1 Goal no. 6 Goal no. 7 Goal no. 8	Exchanging data, through the CMP, between the own ICT management system and the platforms of the other operators involved in the corridor. i.e.: APNet; WiderMoS CMP; RFI PIC Platform
3.	MONITORING THE STATUS OF THE NETWORK AND SERVICES	Goal no. 8	Displaying the status of the network and services along the entire LA SPEZIA - VERONA corridor in real time.
4.	DIGITAL CONNECTION BETWEEN FAR OPERATORS	Goal no. 6 Goal no. 8	Need of communication with cross-border operators of the Central Europe countries, starting from the LA SPEZIA - VERONA corridor and towards foreign countries.
5.	DASHBOARD TO MONITOR UNITS	Goal no. 3 Goal no. 8	Access to a dashboard that allows the monitoring of the intermodal unit along the entire LA SPEZIA - VERONA corridor (new demand for ICT oriented transport services).
6.	SHARING INFORMATION ABOUT THE LAST MILE OPERATIONS	Goal no. 3 Goal no. 5	Sharing the data related to the operations that occur in the last mile, beyond the jurisdiction of the Rail network management Company in agreement with the port authority/inland terminal.
7.	FAST CORRIDORS 2.0 CUSTOMS OPERATIONS	Goal no. 4	Extension of the use of the platform also in the customs field (e.g. facilitation of customs clearance in the place where this is most appropriate) for cross-border flows towards Central Europe countries.



3. Identification of the actions

3.1. Mapping the actions

Please fill the table below, summarising the actions to be taken (horizon: 2030).

Please find some examples as guidance.

Starting also from the experience of COMODALCE Pilot Action and the other innovative projects, the Port Authority of the Eastern Ligurian Sea has placed some fundamental issues related to Digital transition, resumed as it follows:

1. Development of the Port Community System
2. Last mile digitalization
3. Interoperability of IT platforms and systems
4. Digitization of port gates
5. Digital Twin
6. Drones
7. Blockchain
8. New technologies and 5G

ACTION/MEASURE	ESTIMATED COST	TIME HORIZON
<i>Development of the Port Community System</i>	<i>2.000.000,00</i>	<i>2024</i>
<i>Last mile digitalization</i>	<i>450.000,00</i>	<i>2023</i>
<i>Interoperability of IT platforms and systems</i>	<i>450.000,00</i>	<i>2024</i>
<i>Digitalization of port gates</i>	<i>1.000.000,00</i>	<i>2024</i>
<i>Digital Twin</i>	<i>70.000,00</i>	<i>2023</i>
<i>Drones</i>	<i>130.000,00</i>	<i>2023</i>
<i>Blockchain</i>	<i>350.000,00</i>	<i>2024</i>
<i>New technologies and 5G infrastructure</i>	<i>6.500.000,00</i>	<i>2024</i>

3.2. Setting the actions

In this section, please describe the actions included in the previous table. Please find some examples as guidance. Please replicate this table for each action.

Action no. 1: Development of the Port Community System	
Description of action/measure <i>Describe the action foreseen and the</i>	<ul style="list-style-type: none"> • Completion of Pilot Projects dedicated to road transport and port statistics



<p><i>expected results from its implementation</i></p>	<ul style="list-style-type: none"> • Adaptation of the APNet PCS for evolution of the Customs and Monopolies Agency system (AIDA) • Digitization of international logistics corridors with non-EU countries (International Fast and Secure Trade Lane), involving all the actors of the countries concerned and their respective customs agencies in the data exchange
<p>Description of the main steps for its implementation <i>List and describe in detail the main steps for the implementation of the action (i.e. planning phase, tender procedures, etc...)</i></p>	<p>Planning phase, tender procedure and award, design of the IT systems, pilot phase, running phase</p>
<p>Stakeholders involved <i>List the stakeholders involved. What is their role in the action? Will they be the direct beneficiaries?</i></p>	<p>Customs Agency, Trucks drivers' associations, Transport operators, Shipping Companies, Freight Forwarders</p>
<p>Timeline <i>Indicate the time horizon for the implementation of the action</i></p>	<p>2024</p>
<p>Investment cost <i>How much will cost the construction/realization of the future initiative/action/technology?</i></p>	<p>2.000.000,00</p>
<p>Sources of financing¹ <i>What are the sources of financing? Private capital, public capital, CEF, etc... How much is the share covered by each of them?</i></p>	<p>Port Authority capital, European Funds</p>
<p>Impact of the initiative <i>Describe the expected future economic, social, environmental impacts of this initiative</i></p>	<p>Speed up the Customs Clearance procedures and the data exchange, increase the relationships between the transport operators</p>
<p>KPIs <i>Please identify the KPI to be used for measuring the action's impact</i></p>	<p>Average turnaround time, number of digitalized documents</p>

¹ This information, if already available, could be assumed in the draft version and it has to be confirmed in the final one



Action no. 2: Last mile digitalization	
<p>Description of action/measure <i>Describe the action foreseen and the expected results from its implementation</i></p>	<ul style="list-style-type: none"> As part of the railway Fast Corridor procedures, development of pilot projects for the extension of the procedure to international corridors (intra-EU warehouse transfer) in line with the evolutionary procedures promoted by the Customs Agency As part of the projects for the optimization of railway shunting in port, digitize the flows related to the shunting management for the interoperability with the shunting users Implement comprehensive last-mile digitization solutions that include the signalling component, integrated shunting management, interoperability with RFI systems and complete digitalization of flows with port and railway operators
<p>Description of the main steps for its implementation <i>List and describe in detail the main steps for the implementation of the action (i.e. planning phase, tender procedures, etc...)</i></p>	<p>Planning phase, tender procedure and award, design of the IT systems, pilot phase, running phase</p>
<p>Stakeholders involved <i>List the stakeholders involved. What is their role in the action? Will they be the direct beneficiaries?</i></p>	<p>Customs Agency, Railway Infrastructure Manager, Rail Transport operators, Shunting Operators</p>
<p>Timeline <i>Indicate the time horizon for the implementation of the action</i></p>	<p>2024</p>
<p>Investment cost <i>How much will cost the construction/realization of the future initiative/action/technology?</i></p>	<p>450.000,00</p>
<p>Sources of financing² <i>What are the sources of financing? Private capital, public capital, CEF, etc... How much is the share covered by each of them?</i></p>	<p>Port Authority capital, European Funds, Private Funds (Shunting Operator)</p>

² This information, if already available, could be assumed in the draft version and it has to be confirmed in the final one



Impact of the initiative <i>Describe the expected future economic, social, environmental impacts of this initiative</i>	Speed up the railway shunting management and the data flows between the rail transport operators
KPIs <i>Please identify the KPI to be used for measuring the action's impact</i>	Average shunting time, number of digitalized documents

Action no. 3: Interoperability of IT platforms and systems	
Description of action/measure <i>Describe the action foreseen and the expected results from its implementation</i>	<ul style="list-style-type: none"> Interoperability of IT platforms of the operators along the supply chain, thanks also to the experience of the AdSP within the Federation of Platforms working group of the DTLF
Description of the main steps for its implementation <i>List and describe in detail the main steps for the implementation of the action (i.e. planning phase, tender procedures, etc...)</i>	Planning phase, tender procedure and award, design of the IT systems, pilot phase, running phase
Stakeholders involved <i>List the stakeholders involved. What is their role in the action? Will they be the direct beneficiaries?</i>	Supply chain operators
Timeline <i>Indicate the time horizon for the implementation of the action</i>	2024
Investment cost <i>How much will cost the construction/realization of the future initiative/action/technology?</i>	450.000,00
Sources of financing³ <i>What are the sources of financing? Private capital, public capital, CEF, etc... How much is the share covered by each of them?</i>	Port Authority capital, European Funds, Private capitals (transport operators)
Impact of the initiative	Speed up the data flows between the supply chain

³ This information, if already available, could be assumed in the draft version and it has to be confirmed in the final one



<i>Describe the expected future economic, social, environmental impacts of this initiative</i>	operators
KPIs <i>Please identify the KPI to be used for measuring the action's impact</i>	Number of digitalized documents

Action no. 4: Digitization of port gates	
Description of action/measure <i>Describe the action foreseen and the expected results from its implementation</i>	<ul style="list-style-type: none"> Integration of the mobile app provided to the trucks' drivers and developed in Ursa Major Neo with some information services on the status of the containers and on the documentation connected to them through the implementation of a special truck module on the APNet PCS, interfaced with the information systems of the port terminals Digitization of gate-in/out operations in order to simplify the access to the port of La Spezia and the Santo Stefano Magra terminal and avoid congestion at peak time
Description of the main steps for its implementation <i>List and describe in detail the main steps for the implementation of the action (i.e. planning phase, tender procedures, etc...)</i>	Planning phase, tender procedure and award, design of the IT systems, pilot phase, running phase
Stakeholders involved <i>List the stakeholders involved. What is their role in the action? Will they be the direct beneficiaries?</i>	Customs Agency, Trucks drivers' associations, Terminal operators, Freight Forwarders
Timeline <i>Indicate the time horizon for the implementation of the action</i>	2024
Investment cost <i>How much will cost the construction/realization of the future initiative/action/technology?</i>	1.000.000,00
Sources of financing⁴ <i>What are the sources of financing? Private capital, public capital, CEF,</i>	Port Authority capital, European Funds, Private capitals (freight forwarders and terminal operators)

⁴ This information, if already available, could be assumed in the draft version and it has to be confirmed in the final one



<p>etc... How much is the share covered by each of them?</p>	
<p>Impact of the initiative Describe the expected future economic, social, environmental impacts of this initiative</p>	Avoid congestion at peak time
<p>KPIs Please identify the KPI to be used for measuring the action's impact</p>	Number of users, average dwell time at the gate, number of digitalized documents

Action no. 5: Digital Twin	
<p>Description of action/measure Describe the action foreseen and the expected results from its implementation</p>	<ul style="list-style-type: none"> Extend the application of the Digital Twin to more port areas in order to collect data, perform predictive analyses and simulations on future development projects of the entire port system
<p>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...)</p>	<p>Planning phase, tender procedure and award, design of the Digital Twin application, tool for the end users</p>
<p>Stakeholders involved List the stakeholders involved. What is their role in the action? Will they be the direct beneficiaries?</p>	<p>Terminal operators</p>
<p>Timeline Indicate the time horizon for the implementation of the action</p>	<p>2024</p>
<p>Investment cost How much will cost the construction/realization of the future initiative/action/technology?</p>	<p>70.000,00</p>
<p>Sources of financing⁵ What are the sources of financing? Private capital, public capital, CEF, etc... How much is the share covered by</p>	<p>Port Authority capital, European Funds</p>

⁵ This information, if already available, could be assumed in the draft version and it has to be confirmed in the final one



each of them?	
Impact of the initiative <i>Describe the expected future economic, social, environmental impacts of this initiative</i>	To provide a real DSS (decision support tool) that can help the Port Authority to manage the peaks of road traffic flow
KPIs <i>Please identify the KPI to be used for measuring the action's impact</i>	Number of data analysis and simulations forecasted

Action no. 6: Drones	
Description of action/measure <i>Describe the action foreseen and the expected results from its implementation</i>	<ul style="list-style-type: none"> Application of this type of technology in the various areas of use (eg security, safety, inspections, maintenance, decision support tool)
Description of the main steps for its implementation <i>List and describe in detail the main steps for the implementation of the action (i.e. planning phase, tender procedures, etc...)</i>	Planning phase, tender procedure and award, design of the Drones application, implementation and test of the technology
Stakeholders involved <i>List the stakeholders involved. What is their role in the action? Will they be the direct beneficiaries?</i>	Terminal operators, Coast Guard, Italian Navy, Local Public Authorities
Timeline <i>Indicate the time horizon for the implementation of the action</i>	2024
Investment cost <i>How much will cost the construction/realization of the future initiative/action/technology?</i>	130.000,00
Sources of financing⁶ <i>What are the sources of financing? Private capital, public capital, CEF, etc... How much is the share covered by each of them?</i>	Port Authority capital, European Funds
Impact of the initiative	Increase safe and security for the port operators

⁶ This information, if already available, could be assumed in the draft version and it has to be confirmed in the final one



<i>Describe the expected future economic, social, environmental impacts of this initiative</i>	
KPIs <i>Please identify the KPI to be used for measuring the action's impact</i>	Average dwell time, number of digitalized documents

Action no. 7: Blockchain	
Description of action/measure <i>Describe the action foreseen and the expected results from its implementation</i>	<ul style="list-style-type: none"> • Applications both in the PA and in the port sector, in line with EU and national regulations
Description of the main steps for its implementation <i>List and describe in detail the main steps for the implementation of the action (i.e. planning phase, tender procedures, etc...)</i>	Planning phase, tender procedure and award, design of the blockchain application, implementation and test of the technology
Stakeholders involved <i>List the stakeholders involved. What is their role in the action? Will they be the direct beneficiaries?</i>	Terminal operators
Timeline <i>Indicate the time horizon for the implementation of the action</i>	2024
Investment cost <i>How much will cost the construction/realization of the future initiative/action/technology?</i>	350.000,00
Sources of financing⁷ <i>What are the sources of financing? Private capital, public capital, CEF, etc... How much is the share covered by each of them?</i>	Port Authority capital, European Funds
Impact of the initiative <i>Describe the expected future economic, social, environmental impacts of this initiative</i>	Encourage the use of new technologies for new services to the port community

⁷ This information, if already available, could be assumed in the draft version and it has to be confirmed in the final one



KPIs <i>Please identify the KPI to be used for measuring the action's impact</i>	Number of blockchain technologies implemented
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Action no. 8: New technologies and 5G infrastructure	
Description of action/measure <i>Describe the action foreseen and the expected results from its implementation</i>	<ul style="list-style-type: none"> Installation of advanced devices for monitoring the efficiency of the logistics chain in the port-hinterland connection
Description of the main steps for its implementation <i>List and describe in detail the main steps for the implementation of the action (i.e. planning phase, tender procedures, etc...)</i>	Planning phase, tender procedure and award, design of the 5G network, implementation and test of the system
Stakeholders involved <i>List the stakeholders involved. What is their role in the action? Will they be the direct beneficiaries?</i>	Terminal operators, Coast Guard
Timeline <i>Indicate the time horizon for the implementation of the action</i>	2024
Investment cost <i>How much will cost the construction/realization of the future initiative/action/technology?</i>	6.500.000,00
Sources of financing⁸ <i>What are the sources of financing? Private capital, public capital, CEF, etc... How much is the share covered by each of them?</i>	Port Authority capital, European Funds
Impact of the initiative <i>Describe the expected future economic, social, environmental impacts of this initiative</i>	Monitoring the efficiency of the logistics chain

⁸ This information, if already available, could be assumed in the draft version and it has to be confirmed in the final one



KPIs <i>Please identify the KPI to be used for measuring the action's impact</i>	Extension of the network and number of devices connected
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Conclusion

In this final section please sum up the vision and content of the action plan and illustrate the expected results and impacts from its implementation. Please list the key words or key concepts that represents the action plan's vision.

In the last years the Port Authority of the Eastern Ligurian Sea has invested in the digitalization of logistics processes, exploiting the opportunities of European projects. Now the Port Authority has to combine together digitalization and sustainability in order to build a resilient port and logistics hub able to face the new challenges in this sector. For this reason, the Port Authority of the Eastern Ligurian Sea needs to improve the digital collaboration with all the port and logistics actors, strengthening the interoperability between the own IT systems and those of the others public and private administrations.

The projects are therefore placed in this context of changing global scenarios which, as recent events also demonstrate, should be ready to face new challenges with resilience, dynamism and the ability to know how to transform needs into growth opportunities and development for the port community.

This Action Plan underlines the importance of some key points, summarized as follows:

- Digitalization
- Digital Transition
- Speed up procedures
- Increase efficiency
- Advanced connectivity
- Sustainability

As illustrated in the chapter 3, the Port Authority of Eastern Ligurian Sea Action Plan developed for the COMODALCE project implementation is well structured and aligned with the 2022-24 Three-Year Operational Plan.