

SSS and MoS Promotion Action Plan

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Summary

The main goal of MultiAPPRO is development of intermodal transport in the Adriatic-Ionian region targeting at the creation of sustainable growth. The project therefore implements multidisciplinary approaches to tackle the issue of uncoordinated and insufficiently developed intermodality. The first approach deals with the collection and analysis of bottlenecks within the National Working Groups and Intermodal Transport Network as expert bodies established on a national and international level. Next approach deals with the inexistence of coordination in the promotion of intermodality within the region. Finally, the problem of uncoordinated transport infrastructure investments was tackled by developing a Transport Performance Strategy as a tool which enables a simple and objective analysis of the impact of planned investments in the ADRION region.

This document is part of the second approach. It aims at stressing the relevance of the Motorway of the Sea and the Short Sea Shipping as a concept supporting the development of intermodal transport which is recognized as environment-friendly mode with substantially better environmental performances than unimodal road transport. The main goal of the document is to create an action plan that will serve as a strategic document on main activities for achieving main project goals and objectives regarding development of multimodality with special emphasis on carrying out a common promotion campaign.

This action plan follows a top-down approach, presenting firstly the main characteristics of the area, followed by results of the analysis about bottlenecks. That information led to the detailed presentation of the main objectives of the project as well as actions to be undertaken and the envisioned timeframe and possible sources of funding. Finally, action plan concludes with the contribution of our project to the priorities of EUSAIR strategy.

1. Short Sea Shipping and Motorways of the Sea concept

Transport in general with special emphasis on road transport as a dominant mode brings forward negative impacts on the society and environment by causing congestions, noise, high levels of greenhouse gases and other external costs. This clearly indicates that road transport has a direct negative impact on the environment and that developing alternative modes of transport such as shortsea shipping and motorways of the sea is crucial for the future of our society. As stated in the European Commission Declaration (1999), in the **Declaration of Gijon** (2002) and in the **Declaration of Athens** (2014), the development of SSS will be essential to achieve the Europe 2020 objectives for a sustainable and environmental friendly transport policy.

Furthermore, the Community guidelines for the development of a Trans-European Transport Network (TEN-T) by 2010 were adopted in 1996. They included eleven priority projects (Decision No. 1692/1996/EC). One of the priority projects was dedicated to the development of seaports and setting out objectives which have shaped the development of the Motorways of the Sea concept.

The Motorways of the Sea concept was not formally introduced until 2001. The 2001 Transport White Paper¹ mentioned 'sea motorways' as a way of reviving short sea shipping and thus alleviating some of the congestion and relieving pressure on the bottlenecks in the European road and rail network. Better connections between ports, rail and inland waterway networks, together with improvements in the quality of port services, were put forward as priorities. The 2001 Transport White Paper did not present a clear definition of Motorways of the Sea concept but noted that it should be taken forward in the future revision of the trans-European networks.

A programme for the promotion of short sea shipping followed in 2003². This provided more concrete actions than the 2001 White Paper and envisaged legislative action on the development of the Motorways of the Sea (this was provided by the 2004 TEN-T guidelines). Opportunities were identified for development of the Motorways of the Sea concept.

Since then, many projects have focused on the development of the Motorways of the Sea and Short Sea Shipping concepts. It is one of the main goals of the MultiAPPRO project as well.

¹ European Commission (2001), European transport policy for 2010: time to decide

² European Commission (2003), Communication from the Commission: Programme for the Promotion of Short Sea Shipping COM(2003) 155 [http://eur-lex.europa.eu/legalcontent/ EN/TXT/HTML/?uri=URISERV:l24258&from=EN](http://eur-lex.europa.eu/legalcontent/EN/TXT/HTML/?uri=URISERV:l24258&from=EN)

2. Territorial, economical and logistic context of the Area

ADRION cooperation area include 8 Partner States – 4 EU member states – Croatia, Greece, Italy and Slovenia, 3 candidate countries – Albania, Montenegro, Serbia, and one potential candidate – Bosnia and Herzegovina. The whole area approximately has 70 million people. The 8 partners states in the area are all characterized by different physical, territorial, environmental and socio-economic characteristics.

MultiAPPRO project includes 9 partners in total from Albania, Croatia, Greece, Italy, Montenegro and Slovenia. To better understand the territorial, economical and logistic challenges in the area, each country will be presented separately.

2.1 Croatia

Croatian coast is well strategically located on the intersection of regional and international maritime routes and is 5835 km long (6287 km including the islands). It includes 718 islands and islets, 389 cliffs and 78 reefs which makes it one of the most rugged coastlines in Europe.

Of the total area of the Republic of Croatia, which amounts to 87,661 km², inland sea waters and territorial sea cover an area of 31,479 km², inland sea waters 12,498 km² and territorial sea 18,981 km². Croatia has a long maritime tradition, and the maritime sector has always played a key role in the country's economic, trade and social development. Croatian ports are integrated into a comprehensive network of European transport corridors, which represents a development potential that enables inclusion in trade flows in both the European and world markets, as well as the transformation of port systems into modern logistics and distribution economic centers. Six main ports (Rijeka, Zadar, Šibenik, Split, Ploče and Dubrovnik) are located along the mainland coast and all have been declared ports of special (international) economic interest for the Republic of Croatia.

2.2 Greece

Greece is situated on the east-south part of Europe, at the crossroads of Europe, Asia, and Africa. The Aegean Sea lies to the east of the mainland, the Ionian Sea to the west, the Cretan Sea and the Mediterranean Sea to the south. Greece has the longest coastline on the Mediterranean Basin and the 11th longest coastline in the world at 13,676 km in length, featuring many islands. This characteristic makes Greece mainly an island country.

Greece is a maritime nation by tradition, as shipping is arguably the oldest form of occupation of the Greeks and a key element of Greek economic activity since the ancient times. Shipping remains one of the country's most important industries, accounting on 2018 for 4.5 percent of GDP, employing about 160,000 people and representing a third of the trade deficit. According to Lloyd's List, in 2015, Greece was the first ship owner country in the world in terms of tonnage with a total deadweight tonnage (DWT) of 334,649,089 tons and 5,226 Greek-owned vessels. Today it is the second largest contributor to the national economy after tourism.

2.3 Slovenia

Slovenia is one of the smaller countries, with an area of 20,271 km². The total length of the border is 1,370 km, and it runs the largest extent with Croatia (670 km). It is followed by 318 km of the border in the north with Austria, 280 km of the border in the west with Italy, and 102 km of the border in the NE with Hungary. Slovenia has 46.6 km of coastline and 48 km of sea border. It is important to expose that the 402 km border runs along rivers.

Despite its small size, it has extremely important geolocation from a traffic point of view. It is located at the junction of the Baltic-Adriatic Transport Corridor and the Mediterranean Corridor, thus forming an important transport arm in transit traffic. In addition to being an important road and railway hub, Slovenia is also important for maritime transport. Location and role of the port of Koper, managed by Luka Koper d.d. is important for the functioning of international supply chains, especially in connecting the Asian market with the market of Central and SE Europe. The throughput of the Port of Koper is constantly growing. The most noticeable is the growth in container throughput. The total throughput of the port in 2019 amounted to 22,79 million tons. The highest share is represented by containers with 9,47 million tons or 959.354 TEU. Compared to 2018, a 3% decline was recorded when 988.499 TEUs were transhipped.

2.4 Italy – Veneto Region

Veneto region area is characterized by a sustained economic growth (much higher than the national one, actually more than twice and a half the national figure), with a growing vocation for its industry sector internationalization and tourism.

The port of Venice is one of the major Italian ports for infrastructure assets. It stretches over an area of more than 2,045 hectares: this corresponds to 5% of the total surface and 11% of the built-up area of the Municipality of Venice. It includes more than 30 kilometres of quaysides that in turn host 163 ac ve berths organised in the Port's 27 terminals, catering for commercial, industrial and passenger traffic. Within the port there are two very distinct areas, namely Porto Marghera- which hosts the logistics, commercial and industrial activities -, and the Port in Venice, which has mainly risen around the Marittima passenger port and minor berths where passenger services are organised and supplied to cruise ships, hydrofoils and yachts. Port of Venice and Port of Chioggia are both international gateways for Northern Italy, Austria and southern Germany and the intermodality is crucial with rail mode share about 9%.

In terms of traffic, the overall movement in Venice port was approximately 26.49 million tons in 2018, equal to 5.39% of the total national, while the port of Chioggia has handled about 1.01 million tons, equal to 0.21% of the total. For the types of goods, Venice is sixth Italian port for liquid bulk (9.36 million tons 2018), third for solid bulk (7.38 million tons in 2018) and eighth for general cargo (9.75 million tons in 2018); in the latter category, in particular, it is fourth Italian port for containers handled (approximately 632,000 twenty-foot equivalent units - TEU - as of 2018).

2.5 Montenegro

Montenegro is a sovereign state located in the western part of the Balkan peninsula, having a coast on the Adriatic Sea. The country shares borders with Croatia (West), Bosnia & Herzegovina (Northwest), Serbia (Northeast), Kosovo (East), Albania (East-Southeast) and Italy from which it is separated by the Adriatic Sea (Southwest). Montenegro's current population is approximately 630,000 inhabitants, with an expected population growth 0.2% on average in the forthcoming years. The economy of Montenegro is mostly service-based, among which tourism stand out as one of priorities.

Port of Bar is the main cargo port in Montenegro and the port was established in 1906. The area of the port covers 200 ha (including port aquatorium with approx. 90 ha and its depth up to 14m). According to the Detailed Urban Plan for the port area, additional 400 ha are dedicated for further development of port area. The Port of Bar is situated at the entrance to the Adriatic sea, at a distance of 976 nautical miles (nm) to Suez canal and 1190 nm to Gibraltar. The main activity of Port of Bar is handling and storage of dry bulk cargo, liquid cargo, special cargo, Ro-Ro and general cargo, passenger traffic and stuffing and stripping of containers.

In addition, Port of Bar is a Free zone at almost whole of its area, which enables the possibilities of organizing the manufacturing and other activities by using the advantages which the operation in the Free zone regime provides. Capacity of the “Port of Bar” H.Co. is ~2,7 million tonnes of different types of cargos, per year.

2.6 Albania

Albania is positioned on Southern eastern Europe’s Balkan peninsula. It is a small country with Adriatic and Ionian coastlines and an interior crossed by the Albanian Alps. Albania has border crossing points and land borders with Montenegro to the northwest, Kosovo to the northeast, Republic of North Macedonia to the east (land and inland waterways, Ohrid lake), and Greece to the south (land and IWW Prespa lakes) and maritime borders with Italy, Montenegro and Greece to west.

The structure of economic operators in the program area is dominated by small and medium enterprises. Higher productivity and further investment in the expertise and use of innovation technologies are a prerequisite for becoming more competitive nationally and internationally. Most small and medium enterprises (SMEs) in both the Adriatic and Ionian Seas operate in the service sector. As regards the seaport sector, Albania has four main seaport authorities: Durres, Vlora, Shengjin and Saranda and four oil private terminal facilities in Romano Port (Durres) and Kastrati port in Porto Romano a Multi buoy mooring and in Italian Albanian Petrolifera fuel port in Vlora Bay (in Vlora region) and an IWW in Vau I Dejes (with a RIS river information system and ferry line).

The analysis of port traffic shows different patterns of cargo and passenger growth in the last 5 years across the four ports; but overall flat or low growth rates are either flat or low with a particularly high concentration of traffic in the Port of Durres which handles about 78% of the country's seaborne trade in tonnage terms and 75% of all the export and import trade of the country. This makes the Port of Durres the most important seaport in Albania and, together with Bar in Montenegro, the main ports in the Western Balkan region. Moreover, Durres has become the main gate to TEN-T Mediterranean Corridor CVIII.

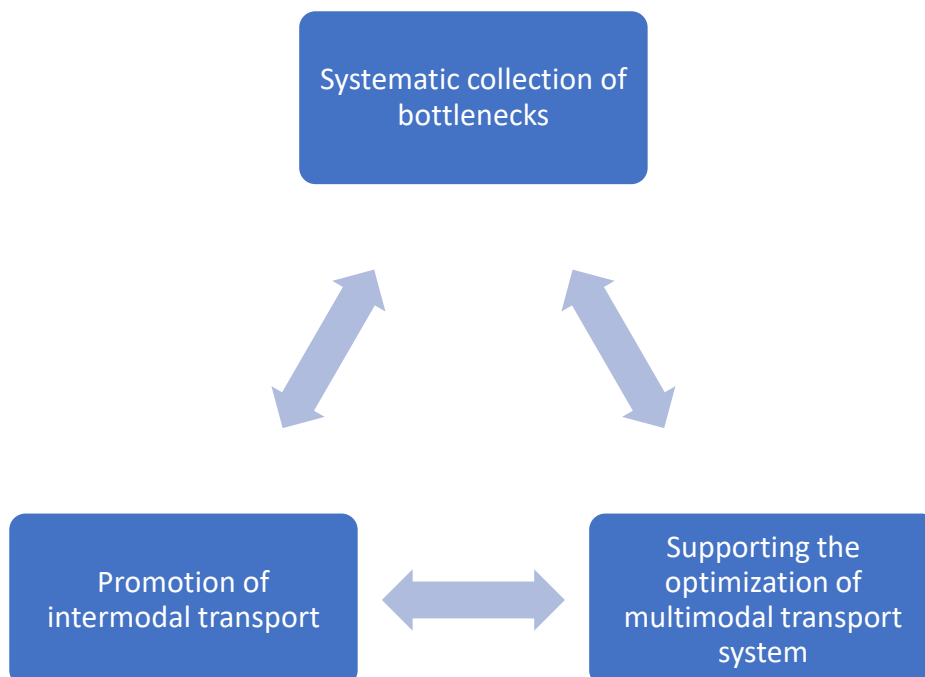
3. Objectives, Goals and Timeframe

The overall objective of the MultiAPPRO project is development of intermodal transport in Adriatic-Ionian region. Transport systems in the region aren't equally developed. Italy, Slovenia and partially Greece, have undoubtedly reached a higher level of port and intermodal transport development, but road traffic is still dominant in all countries. One of the reasons is the stakeholders' lack of connection in the region or absence of collaboration and common action in every segment. The absence of a systematic promotion to stimulate the usage of intermodal (mostly Motorways of the Sea) routes and logistically explain their administration serves road carriers which have in simple and traditional, but ecologically more unacceptable way of goods transport. The project goal is to show that intermodal transport can be simple and more competitive than the usual road transport.

It could be said that MultiAPPRO is trying to reach the main objective with 3 approaches:

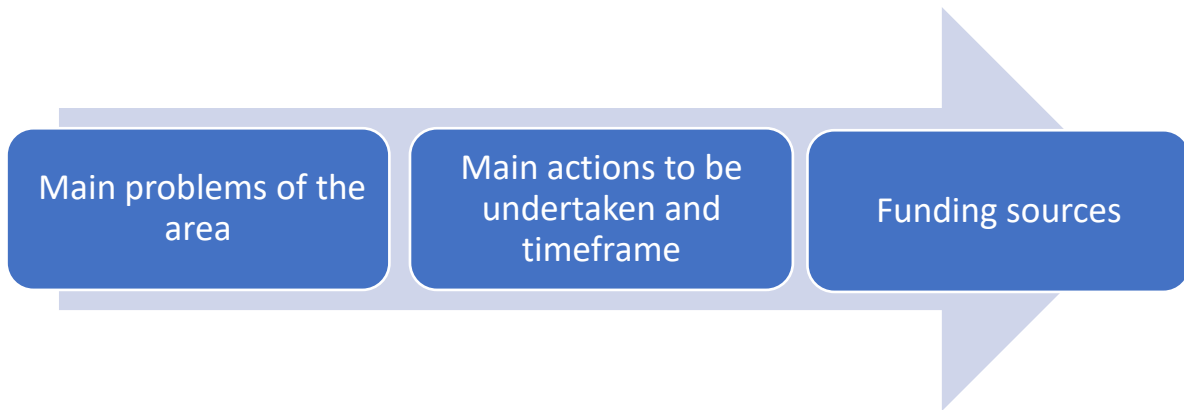
- The first approach deals with the bottleneck collection and their analysis. Intermodal Transport Network is the output that created expert body on international level whose purpose is to support the development of an environmentally friendly and sustainable intermodal transport in the region offering solutions for collected bottlenecks in the coordinated manner.
- The second approach is systematic promotion that intends to raise the level of knowledge on the advantages of intermodal transport within the stakeholders and society. That is the main goal of this document. The second output related to the promotion is creation of the Promotion network. One of the project goals is to encourage the establishment of new Promotion Centres in countries that do not have them (Slovenia, Albania, Montenegro). To that goal, project created 2 documents - Concept of promotion centres and Guidelines for the establishment of new Promotion centres.
- The last approach is the development of Transport Performance Strategy as a tool which enables a simple and objective analysis of the impact of planned investments in the ADRION region.

Picture 1: MultiAPPRO approach:



Result of these steps implemented for reaching main project goal is the following methodology developed for creating this action plan. Methodology used for development of this action plan includes the following steps described in the next chapters.

Picture 2: Methodology used for MultiAPPRO Action plan:



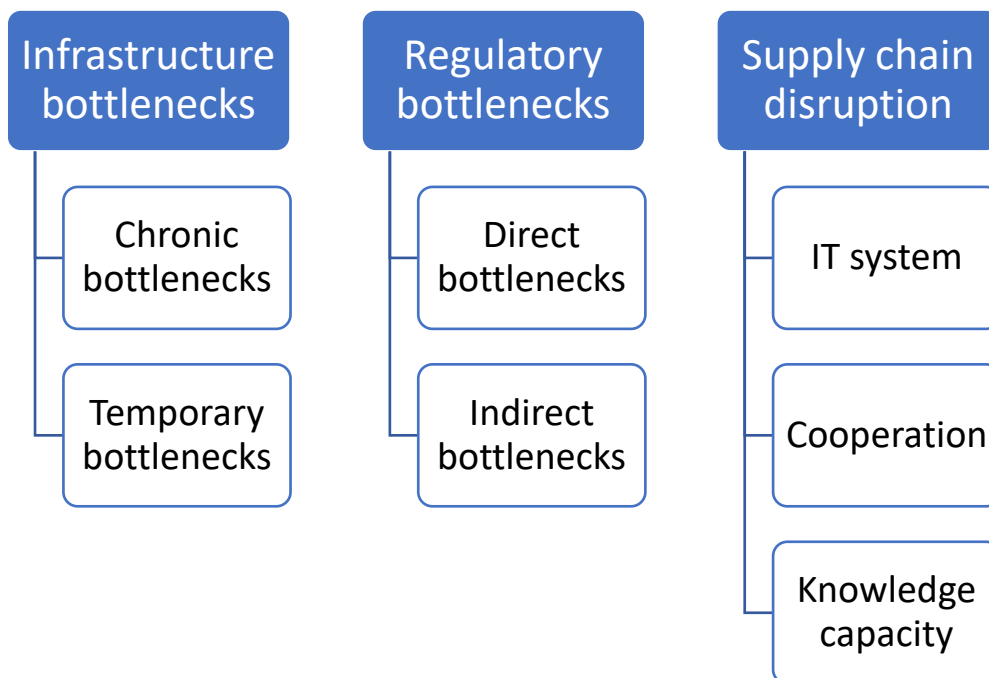
4. The main problems in the Area

In the scope of MultiAPPRO project, partners worked on several approaches to reach the main project goal. The first approach was to collect bottlenecks and make a detailed analysis. On the basis of that analysis, this document will show the main problems found in the project area and propose realistic actions for their resolving.

The bottleneck analysis was carried out using the approach of the so called “bottleneck exercise”. In 1999, the European Commission has launched an exercise to identify and alleviate obstacles hindering the smooth running of the freight transport chain in Europe. In the framework of this so-called "bottleneck exercise", stakeholders and interested parties are invited to submit details of bottlenecks they have encountered. A bottleneck is any obstacle to freight and passenger transport logistics services, whether administrative, operational, legislative, local, national, Europe-wide or similar. Participants to the bottleneck exercise are also asked to identify effective solutions to these problems. All partners countries have participated in this exercise and 77 bottlenecks have been added to database.

The collected bottlenecks within MultiAPPRO project have been divided into 3 main categories and several sub-categories as indicated in the Picture 3 below.

Picture 3. Categorization of bottlenecks



The following fields have been identified for the bottleneck’s systematization:

- Bottleneck name;
- Category;
- Subcategory (if applicable);
- Problem description and relations (if applicable);
- Proposed action plan;
- Organization(s) that need to be involved;

- Influence on the future freight flows

In this document, only the bottleneck list will be given. Detailed analysis and proposed solution for each bottleneck are given in the annexed document: T.1.3.2 Systematization of bottlenecks.

No	Country	Bottleneck	Category	Subcategory
1	Croatia	Rail infrastructure works	Infrastructure	Temporary
2	Croatia	Old rolling stock	Infrastructure	Chronic
3	Croatia	Road, rail and terminal infrastructure	Infrastructure	Chronic
4	Croatia	Insufficient number of railway transport options, especially common block train options	Supply Chain Disruptions	
5	Croatia	Railway transport problems in the Port of Zadar	Infrastructure	Chronic
6	Croatia	Problems with boarding on ferries	Supply Chain Disruptions	IT system
7	Croatia	Non-existing direct railway from the Port of Zadar (not over Knin)	Infrastructure	Chronic
8	Croatia	Sea to rail connection	Infrastructure	Chronic
9	Croatia	Air-2-Rail connection	Infrastructure	Chronic
10	Croatia	Railway border crossing Tovarnik-Šid	Supply Chain Disruptions	Chronic
11	Croatia	Insufficient cooperation between port authorities and transport stakeholders	Supply Chain Disruptions	Cooperation
12	Croatia	Electronic exchange of information is not satisfactory	Supply Chain Disruptions	IT system
13	Greece	Poor awareness campaigns from supervising bodies, on new technologies in logistics and carbon footprint priorities, including detailed information on the use of alternative fuelling systems	Supply Chain Disruptions	Knowledge Capacity
14	Greece	Poor cooperation between companies and port	Supply Chain Disruptions	Cooperation Level
15	Greece	Missing link of road connection between the port and the national road highway	Infrastructure	Chronic
16	Greece	Traffic congestion caused at the port vehicle entrance, due to passenger traffic – poor traffic management	Infrastructure	Chronic
17	Greece	Poor organisation within the warehouse	Supply Chain Disruptions	IT system
18	Greece	Too much time needed for custom inspections	Supply Chain Disruptions	IT system

19	Greece	Absence of real-time insight into the warehouses	Supply Chain Disruptions	IT system
20	Greece	Limited logistic space	Infrastructure	Chronic
21	Greece	No rail connection	Infrastructure	Chronic
22	Greece	Congestion in the port entrance in peak times	Supply Chain Disruptions	IT system
23	Greece	No availability of alternative fuelling facilities for ships and trucks	Infrastructure	Chronic
24	Greece	There are advanced automated port systems, but the problem is that there is well trained staff for use it.	Supply Chain Disruptions	Knowledge Capacity
25	Greece	No existence of an integrates air quality system	Infrastructure	Chronic
26	Slovenia	Ljubljana-Kranj-Jesenice-AT single rail track limitations	Infrastructure	Chronic
27	Slovenia	Single rail track Koper-Divača	Infrastructure	Chronic
28	Slovenia	Divača – Ljubljana railway line capacity	Infrastructure	Chronic
29	Slovenia	Rail tunnel traffic via Karavanke	Infrastructure	Chronic
30	Slovenia	Single rail track Maribor – Šentilj – AT border	Infrastructure	Chronic
31	Slovenia	Rail line Prlorska to Jesenice passing through Ljubljana station	Infrastructure	Chronic
32	Slovenia	The capacity of rail station Pragersko	Infrastructure	Chronic
33	Slovenia	Zidani Most – Celje railway line capacity	Infrastructure	Chronic
34	Slovenia	One way road traffic via Karavanke tunnel	Infrastructure	Chronic
35	Slovenia	Splits at the Ljubljana highway ring	Infrastructure	Chronic
36	Slovenia	Port of Koper-Sermin connection to the highway	Infrastructure	Chronic
37	Slovenia	Parking places for trucks along the highway on Mediterranean and Baltic-Adriatic corridor	Infrastructure	Chronic
38	Slovenia	Maintenance work on the road - highway infrastructure	Infrastructure	Temporary
39	Slovenia	Data exchange for train arrival/departures	Supply Chain Disruptions	IT system
40	Slovenia	Data exchange between port authorities	Supply Chain Disruptions	It system
41	Slovenia	Port and terminal sea channel limitations	Infrastructure	Chronic
42	Slovenia	Port and terminal land infrastructure limitations	Infrastructure	Chronic
43	Slovenia	Untapped connection of inland waterways	Infrastructure & regulatory	Chronic & indirect
44	Slovenia	Low efficiency of customs offices and sanitary inspections	Regulatory	Direct

45	Slovenia	Professional knowledge transfer	Regulatory	Indirect
46	Slovenia	GHG and noise emissions by ships in Port of Koper	Infrastructure	Chronic
47	Italy	Railway connections to/from ports	Infrastructure	Chronic
48	Italy	Nautical accessibility: physical constrains (dimension)	Infrastructure	Chronic
49	Italy	Nautical accessibility: physical constrains (weather conditions)	Infrastructure	Temporary
50	Italy	Rail accessibility: Mestre station node issue	Infrastructure	Chronic
51	Italy	Road accessibility: gate in/out procedures	Regulatory	Direct
52	Montenegro	Security of railway infrastructure	Infrastructure	Chronic
53	Montenegro	Inadequate intermodal infrastructure	Infrastructure	Chronic
54	Montenegro	Ineffective communication between customs and port authorities	Regulatory	Direct
55	Montenegro	Inadequate port-hinterland connections	Infrastructure	Chronic
56	Montenegro	Low market position	Regulatory	
57	Albania	Establishing the passengers transport by rail between 2 MULTIAPPRO members, MNE-AL	Supply Chain Disruption	
58	Albania	The lack of efficient rail transport and the inefficient or inadequate capacity and operational structure of maritime infrastructure.	Infrastructure	Chronic
59	Albania	(i) An intermodal node within the Port of Durres that involves: road, maritime and rail transport; and (ii) In general, lack of intermodal centres across national territory.	Regulatory	Indirect
60	Albania	(i) Lack of intermodal terminals; (ii) Lack of railway and road connections; and (iii) Lack of strategies for intermodal transport.	Regulatory	Direct
61	Albania	Lack of "digitalization" in the railway transport sector	Regulatory	Indirect
62	Albania	Unsuitable terminal locations	Infrastructure	Chronic
63	Albania	Inefficient internal administrative processes	Regulatory	Indirect
64	Albania	A complex legal state-of-play with regard to SMEs which operate in the maritime field and producing eco-industry	Regulatory	Direct
65	Albania	Legislation basis update	Regulatory	Direct
66	Albania	Railway bottlenecks and shortages	Infrastructure	Temporary
67	Albania	Opening passengers transport for international routes, by rail, not available yet	Supply Chain Disruptions	

68	Albania	Interconnectivity not at a real time information system to passengers yet, MaaS mobility as a service still missing	Supply Chain Disruptions	IT systems
69	Albania	Marketing and branding strategy full implementation and hybrid scenarios not in place	Regulatory	Direct
70	Albania	Missing licensed training centres on inter-modality	Regulatory	Direct
71	Albania	Planning and procurement of the CoreDA RAILDATA system on the standing costs in the Albanian territory for the foreign wagons - GCU general contract use of wagons	Regulatory	Direct
72	Albania	Deployment of the electronic community system in the ports and E-consignment	Supply Chain Disruptions	IT systems
73	Albania	Vague evaluation of inter-modality, not a comparative advantage in the region is built yet	Regulatory	Indirect
74	Albania	Security update and increase safety levels in port of Saranda through investment still missing	Infrastructure	Temporary
75	Albania	Enriching the MAP REA with Albanian ports and investment costs	Regulatory	Indirect
76	Albania	Defining the SSPP for maritime and incl. in the economic reforms at intermodal strategy	Regulatory	Direct
77	Albania	The TEN-T Corridor Mediterranean being completed	Infrastructure	Temporary

Beside bottlenecks on the national level, more bottlenecks on the international (ADRION) level were found and discussed with Intermodal Transport Network. Intermodal Transport Network (ITN) is a body composed by the Partners' representatives, national authorities and experts who are able to look at the broader picture of regional intermodal transport, critically and affirmatively and look for measures and activities to improve it. The Network is established within MultiAPPRO project with the intention to continue its cooperation after the project end and members worked on all three project topics - bottleneck solution, promotion and quality management. Consultation with experts within this Network has resulted in actions and measures proposed by this Action Plan.

During the 6 ITN meetings which were organized physically and online, topics described below were discussed.

1st meeting: Intermodality and its significance and Impact of Transport infrastructure on intermodality

Thematic topic	Description
Main components of Intermodal Transport	Each country describe which modes are

	included in the national intermodal transport network and how they are connected
Intermodality among Adrion countries	Identification of the current situation of the intermodal transport network among Adriatic-Ionian countries
Users of intermodal transport network	Identification of the main users of the Intermodal Transport Networks and recognition of their main needs
Best Practices	Short description of best practices which have positive influence on the quality of intermodal transport network in each country
Assessment of infrastructure in the core and comprehensive European networks	Identification of lacks in the core and comprehensive European networks in each country.
Quality and safety of transport infrastructure	Identification of the quality and safety issues of transport infrastructure in each country according to the current and future needs of the users
Transport Infrastructure Main Bottlenecks	Short description of main transport infrastructure bottlenecks which have great negative influence on the efficient of the intermodal transport network in each country
Transport Infrastructure Best Practices	Short description of transport infrastructure best practices which have positive influence on the quality of intermodal transport network in each country
Investments on Transport Infrastructure	Identification of the investments on transport infrastructure and the framework of them

2nd meeting: The Significance of Renewable Energy, Alternative fuels and Green Technology in Transport Infrastructure and Impacts, opportunities and needs on the environmental dimension of SSS and Intermodal Transport

Thematic Topic	Description
Needs and Best practices	<ul style="list-style-type: none"> • Existing strong environmental sustainability through the Integrated Quality & Environmental Management System in compliance with the requirements of the ISO 9001:2015 and ISO 14001:2015 standards. • Contribution to a sustainable port image (from a commercial and marketing point of view); • Reduction of negative environmental externalities inside and outside the port area; • Contribution to reaching emission reduction objectives in the port area and/or port city area - compliance with air quality targets • Increase of environmental awareness inside the port managing body in a cross- functional way (finance, marketing, environmental departments are all involved – in principle).
Bottlenecks	<ul style="list-style-type: none"> • Lack of autonomy in tariff setting preventing both the development of such schemes and/or changes / learning from results • No universally accepted system to determine the environmental impacts in ports • Administrative complexity: Requirement of additional human resources to monitor closely the developed mitigation system • Increase in investment costs due to the inclusion of environmental measures in charging schemes
Requirements and opportunities	<ul style="list-style-type: none"> • Development of new services and products linked to environmental performance, thereby increasing port competitiveness • Foster partnerships and dialogue between stakeholders (operators, managing bodies, shipping lines, local communities) to develop further research and development to limit environmental externalities; • Complement and possibly reduce the need or intensity of regulatory initiatives at IMO or EU level to reduce pollution and/or carbon emissions from shipping. • Raise the environmental profile of short sea shipping as an alternative to congested land transport corridors

3rd meeting: Intelligent Transport Systems and their significance and Impact of Transport Infrastructure on Intelligent Transport Systems

Thematic Topic	Description
E-platforms	<ul style="list-style-type: none"> • Online booking • Online monitoring • Online management
Advanced analytics	<ul style="list-style-type: none"> • Network optimisation • Demand forecasting • Parking prediction • Dynamic pricing
Internet of Things	<ul style="list-style-type: none"> • Automation • Vessel tracking and monitoring • Item location tracking • Real time air-quality measurements • Remote Asset monitoring and control • Vehicle tracking
AI	<ul style="list-style-type: none"> • E-service centres • Dynamic capacity reallocation • Predictive maintenance
Autonomous vessels and vehicles- Robotics	<ul style="list-style-type: none"> • Automated navigation and port mobility • Automated port calls
Blockchain	<ul style="list-style-type: none"> • E-bill of lading • Payment automation • Cargo insurance
Cyber security	<ul style="list-style-type: none"> • Security assurance

4th ITN meeting: Safety in Intermodal Transport Network and Security in Intermodal Transport Network

Thematic Topic	Description
Safety and health of workers during port operations. (measures to minimize the risk of accidents)	Each country describes the main concerns on safety of workers among Adriatic-Ionian countries.
Safety of passengers in port area and on board (first aid, accident reporting, life-saving appliances and arrangements, fire detection systems etc.)	Identification of the procedures and applications of a safe intermodal transport network among Adriatic-Ionian countries for passengers.
Safety during transportation of hazardous goods, fuels and chemicals.	Identification of the procedures in Ports among Adriatic-Ionian countries.

Safety of the marine environment from oil spill incidents, air and noise pollution.	Short description of practices about the protection of the environment in ports.
Maintaining port safety (researching the challenges and human factors involved).	Identification of challenges and key factors of maintaining safety of ports in each country.
Ensuring the compliance of ships with the technical requirements and standards for the safety of staff and passengers.	Short description of procedures for the inspection of ships in each country.
Training and raising awareness on safety issues for workers and passengers.	Short description of seminars and campaigns for raising awareness on safety in maritime sector.
Physical Port Security (involves risks of the perimeters of ports, natural risks such as floods and hurricanes, man-made risks such as operator errors, weapon risks and maritime terrorism).	Each country will describe the main concerns on physical port security among Adriatic-Ionian countries.
Maritime Supply Chain Security (involves risks of transportation of illegal goods and passengers, loss of cargo, unwanted vessels in port and security of containers).	Identification of main risks of maritime supply chain security in intermodal transport network among Adriatic-Ionian countries.
Cyber Security (cyber threats such as manipulation of digital systems, data breaches, abuse of authorization etc.)	Identification of the cyber threats in Ports among Adriatic-Ionian countries.
Port Security Plan (involves the competent staff, security equipment, security procedures, restricted port areas, response protocols for security emergency incidents, etc.).	Short description of the Security Plans in Ports among Adriatic-Ionian countries.
Maintaining port security (researching the threats and key factors involved).	Identification of threats and key factors for ensuring port security in each country.
Enhancing the cyber security and the automatization of digital systems to minimize human error.	Short description of systems and procedures for the cyber security of port digital systems in each country.
Training and raising awareness on security procedures for port staff.	Short description of seminars and campaigns for raising awareness on security in ports.

5th meeting: Investment schemes, PPP schemes, Funding tools and National instruments in the sector of transport

Thematic Topic	Description
Details of different investment and funding schemes for the sector of transport	Each country will describe the available investment and funding schemes applied on the sector of transport in the country.
Best Practices and bottlenecks of different investment and funding schemes for the sector of transport	Each country will identify best practices and bottlenecks of the available investment and funding schemes applied on the sector of transport in the country.
Assessment of different investment and funding schemes for the sector of transport and potential recommendations	All participants will discuss and assess the different investment and funding tools according to the future needs of transport networks.

6th meeting: European Green Deal Strategy

Examples of targets proposed by EC	Indicative Timetable set by EC
Sustainable and smart mobility	
Funding call to support the deployment of public recharging and refuelling points as part of alternative fuel infrastructure	From 2020
Assessment of legislative options to boost the production and supply of sustainable alternative fuels for the different transport modes	From 2020
Revised proposal for a Directive on Combined Transport	2021
Review of the Alternative Fuels Infrastructure Directive and the Trans European Network – Transport Regulation	2021
Initiatives to increase and better manage the capacity of railways and inland waterways	From 2021
Proposal for more stringent air pollutant emissions standards for combustion-engine vehicles	2021

5. Main actions to be undertaken

Main actions proposed by this document stemming from MultiAPPRO project can be divided into two main categories on the basis of the project methodology and goals.

1. Supporting the optimization of multimodal transport system
2. Promotion of intermodality

5.1 Supporting the optimization of multimodal transport system

MultiAPPRO project created a basis of main bottlenecks preventing development of multimodal transport. Therefore, main actions to be undertaken have been created on the basis of the findings of MultiAPPRO project and are listed in the following categories.

Topic 1. Impact of Transport infrastructure on intermodality	
Description	MultiAPPRO partners have identified infrastructure as one of the most significant elements for the successful operation of intermodality. Infrastructure bottlenecks are all obstacles that can be described as capacity constraints of transport infrastructure and are divided into the following categories: <ol style="list-style-type: none"> a. Chronic bottlenecks that have a long-term influence b. Temporary bottlenecks that have short-term influence
Proposed measures and actions	<ul style="list-style-type: none"> - Supporting railway network modernisation in the ADRION region - Developing new logistic centres to meet the increasing needs of many ports and to use existing infrastructure in the best possible way (lower investments, environmental sustainability) to ensure the most cost-efficient and environmentally sympathetic supply chains for businesses - Supporting the “last mile” connection improvement in the ports
Timeframe	Medium/Long term

Topic 2. Impact of Renewable energy, alternative fuels and green technology on SSS and Intermodal Transport Logistics	
Description	The complexity of activities in intermodal transport and that on a node level, often results in the emergence of environmental issues, related mainly to water, noise and air quality including waste generation from port installations and ships. One of the main priorities of transport operators and infrastructure providers should be to provide cost

	effective and competitive facilities and services, ensuring long-term sustainable development by minimizing adverse emissions on the natural (air, land and water) and social environment.
Proposed measures and actions	<ul style="list-style-type: none"> - Foster partnerships and dialogue between stakeholders (operators, managing bodies, shipping lines, local communities) to develop further research and development to limit environmental externalities - Contribution to a sustainable port image (from a commercial and marketing point of view) - Reduction of negative environmental externalities inside and outside the port area - Increase of environmental awareness inside the port managing body in a cross functional way (finance, marketing, environmental departments) - Development of new services and products linked to environmental performance, thereby increasing port competitiveness - Raise the environmental profile of short sea shipping as an alternative to congested land transport corridors
Timeframe	Medium/Long term

Topic 3. Impact and significance of Intelligent Transport Systems and digitalised operations and services on SSS and Intermodal Transport Logistics

Description	Intelligent Transport Systems (ITS) are vital to increase safety and tackle Europe's growing emission and congestion problems. They can make transport safer, more efficient and more sustainable by applying various information and communication technologies to all modes of passenger and freight transport. But, in order to be effective, the roll-out of ITS needs to be coherent and properly coordinated across the EU.
Proposed measures and actions	<ul style="list-style-type: none"> - Promote booking services to resolve the problems of congestion in ports and its access points - Promote initiatives for developing new generation systems to facilitate the traffic in cargo - Development of decision support systems to lower the possibility of error - Development of "in-time" exchange information systems for the fulfilment of reporting requirements for vessels entering

	and departing European ports in accordance with EC Directive 2010/65/EU
Timeframe	Medium/Long term

Topic 4. Threats and Solutions of ensuring Safety and Security in in Transport sector

Description	Safety and Security are two main primary fields of transport sector which should be examined and analysed jointly. Safety refers to precautionary measures to prevent events caused by accident whereas security refers to precautionary measures to prevent events caused on purpose. It is a fact that governments tend to invest more in security rather than in safety. One of the main bottlenecks in this field is that investments on safety and security are expensive and therefore, operators need further financial and economic benefits. Also, the communication and cooperation among the national Ministries and the port authorities for safety and security issues is not satisfactorily close and hence does not allow a common approach based on strict strong procedures.
Proposed measures and actions	<ul style="list-style-type: none"> - Training and raising awareness on safety issues for workers and passengers and security procedures for port staff - Ensuring the compliance of ships with the technical requirements and standards for the safety of staff and passengers - Enhancing the cyber security and the automatization of digital systems to minimize human error. -
Timeframe	Medium/Long term

Topic 5. Challenges and Key Factors of different investment and funding schemes for the sector of transport

Description	<p>The goals of investment and funding schemes for transport are threefold:</p> <ul style="list-style-type: none"> ○ achieving socioeconomic convergence among European countries ○ completing the Trans-European Transport Network (TEN-T) ○ tackling specific transport challenges such as decarbonisation, digitalisation, etc., <p>addressing the transport gaps among European countries and their regions, especially the less</p>
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	<p>developed ones, and promoting a European-wide intermodal transport network are considered essential aspects for boosting growth and competitiveness within the EU and ensuring the proper functioning of the internal market. There are several types of funding schemes:</p> <ul style="list-style-type: none"> ○ EU funding instruments ○ PPP schemes ○ National funding instruments <p>The main the main issue is to identify viable investment projects in combination with the appropriate funding sources.</p>
Proposed measures and actions	<ul style="list-style-type: none"> - Training and raising awareness on the issue of selecting appropriate project – mature projects with feasibility studies done, including building permits and environmental authorisations - Efficient prioritization of projects as the parameters of selection varies depending from the decision-making body
Timeframe	Medium/Long term

Priorities set by the Green Deal Strategy	
Description	<p>Transport currently accounts for a quarter of the EU's greenhouse gas emissions and this figure continues to rise as demand grows. The European Green Deal seeks a 90% reduction in these emissions by 2050 through a series of elements targeting sustainable development goals. Road, rail, aviation, and waterborne transport will all have to contribute to the reduction. Transport should become drastically less polluting, especially in cities. The main bottlenecks in this approach are the underdevelopment of railway infrastructure compared to road infrastructure, making the modal split lean towards road transport. The problem is also the absorption of new IT solutions within existing systems. Also, one of the main problems is legislation. Technology develops fast and is quickly becoming mature, however, to implement the new technology represents a challenge. Also, work done so far is small-scale compared to what is required.</p>
Proposed measures and actions	<ul style="list-style-type: none"> - Raising awareness of the need for alternative fuels
Timeframe	Medium/Long term

5.2 Promotion of intermodality

Within MultiAPPRO project, promotion of intermodality has been implemented through a series of measures in line with the developed promotion plan which could be taken as a good practice example of how the promotion and awareness raising can be tackled on the ADRION region level and even wider. Therefore, an SSS and MoS promotion action plan is attached to this document as Annex I in order to provide detailed possibilities available for institutions on the EU level to follow when considering promotion activities. This document provides a list of direct and indirect measures implemented within MultiAPPRO but can also serve as a template for future action within the scope of intermodality, SSS and MoS.

6. Funding sources

In general, funding sources or financing opportunities are promoted at European, national and regional level, and are usually framed within the global strategic vision aimed at complying with the provisions outlined by the EC. The various available funding sources and loans differ according to the sector and project phase, drawing on programs of various kinds. Below are listed some of the funding sources partners and interested stakeholder could find interesting.

- Funding under the European Green Deal – for the implementation of the actions envisaged by the Green Deal
- Funding under CEF (Connecting Europe Facility) - the program that supports the development of transport, energy and digital infrastructures in the context of trans-European transport networks (TEN-T)
- The Digital Europe programme – a funding program dedicated entirely to digital transformation foreseen in the 2021 – 2027
- The Horizon programme – in the new funding period 2021 – 2027 there will be Pillars: Excellent Science, Global Challenges and European Industrial Competitiveness, Innovative Europe.
- The European Territorial Cooperation – Interreg – The instrument of the European Cohesion Policy that is divided in 4 strands (A, B, C, D)

7. MultiAPPRO and priorities of EUSAIR³ strategy

The EUSAIR (EU strategy of the Adriatic and Ionian region) is a macro-regional strategy adopted by the European Commission and endorsed by the European Council in 2014. The general objective of the EUSAIR is to promote economic and social prosperity and growth in the region by improving its attractiveness, competitiveness and connectivity. There are 4 pillars in the strategy:

- Blue Growth
- Connecting the Region
- Environmental Quality
- Sustainable Tourism

MultiAPPRO project contributes to the Pillar 2 "Connecting the Region". The specific objectives for this pillar are:

- To strengthen maritime safety and security and develop a competitive regional intermodal port system.
- To develop reliable transport networks and intermodal connections with the hinterland, both for freight and passengers.
- To achieve a well-interconnected and well-functioning internal energy market supporting the three energy policy objectives of the EU – competitiveness, security of supply and sustainability.

Through the ITN work, MultiAPPRO project has addressed all 3 of above-mentioned objectives. Maritime safety and security have been identified one of the main bottlenecks and Intermodal Transport Network has dedicated on session to discuss those problems and offer solutions.

One of the problems the macro-region is facing are the huge infrastructure disparities, especially between "old" EU member states and other countries. MultiAPPRO project has developed an algorithm and calculation process for assessing current port performance and the potential future investments in all elements of intermodal transport system. Net Present Value (NPV), IRR and Profitability of the Investment will be calculated. Calculating the total score of the system in the two stages (before and after the investment), will determine whether the implementation of the investment improves or deteriorates system overall performance. It is a big step in the process of resolving the infrastructure disparities the region is facing and in the line with the "Smart Growth" of the Europe 2020 strategy that the Pillar 2 is strongly supporting.

³ All information about EUSAIR strategy has been taken from <https://www.adriatic-ionian.eu/about-eusair/> and EUSAIR Action Plan – 17.06.2014

Letter of support for MultiAPPRO output SSS and MoS promotion action plan

Dear Madam/Sir

Hereby I am writing in my capacity as representative of my institution to express our support to document SSS and MoS Promotion action plan written as a part of MultiAPPRO project funded under Interreg ADRION programme.

We recognize SSS and MoS concepts that support development of intermodal transport as environment-friendly mode with substantially better environmental performances than unimodal road transport. Therefore, we support intermodality and SSS and MoS promotion action plan by direct and indirect promotion measures when possible.